Service Manual

FISHER

CA-276

INTEGRATED STEREO AMPLIFIER

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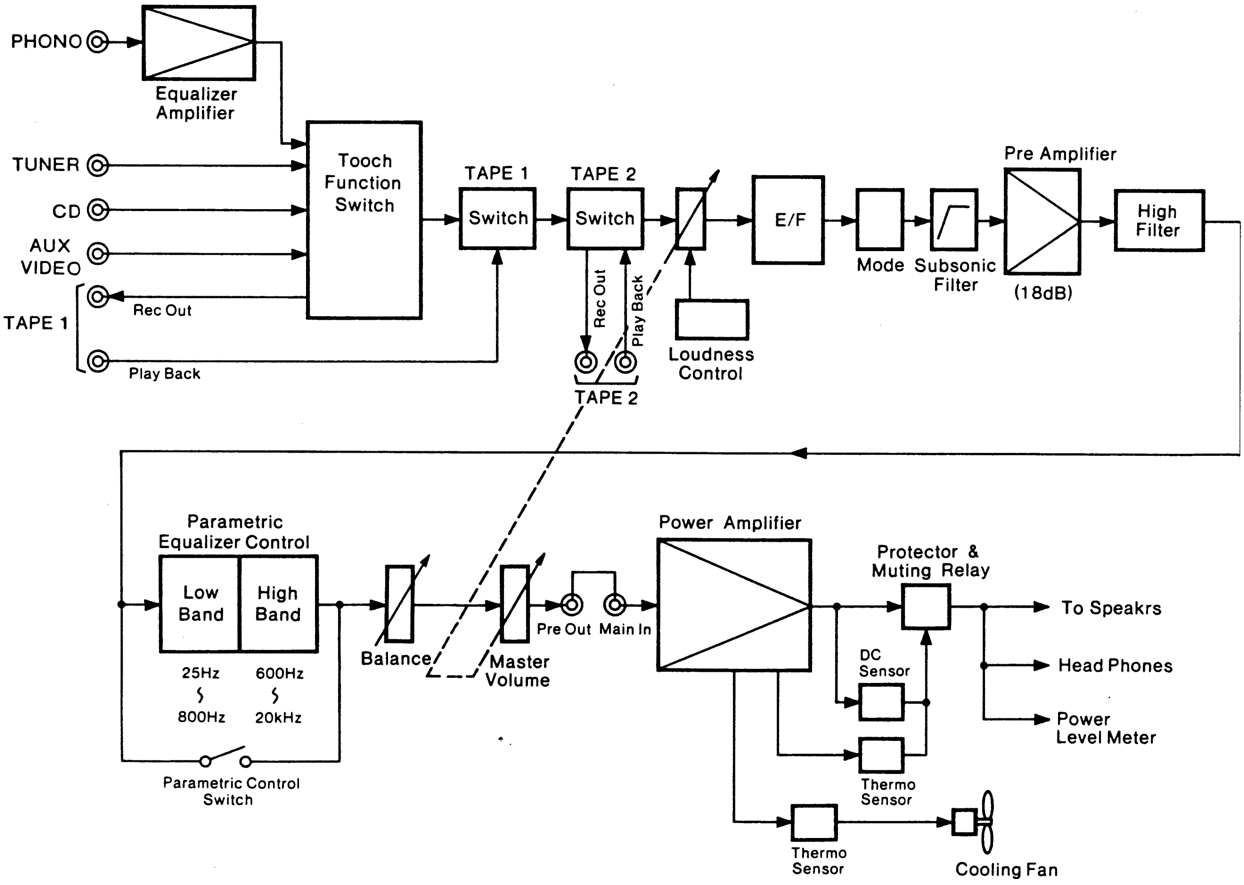
FUNCTIONAL BLOCK DIAGRAM



PHONO
Equalizer Amplifier
TUNER
CD
AUX VIDEO
TAPE 1
Rec Out
Play Back
Tooch Function Switch
TAPE 1
Switch
TAPE 2
Switch
Rec Out
Play Back
TAPE 2
Loudness Control
E/F
Mode
Subsonic Filter
Pre Amplifier
(18dB)
High Filter
Parametric Equalizer Control
Low Band
High Band
25Hz
800Hz
600Hz
20kHz
Parametric Control Switch
Balance
Master Volume
Pre Out
Main In
Power Amplifier
Protector & Muting Relay
DC Sensor
Thermo Sensor
Thermo Sensor
Cooling Fan
To Speakrs
Head Phones
Power Level Meter

SPECIFICATIONS

AMPLIFIER		CA-276
POWER AMPLIFIER SECTION **Minimum RMS sine wave power per channel within stated bandwidth at no more than stated distortion and with 8-ohm load**		**150 Watts**
Power Bandwidth		**20 Hz – 20 kHz**
Total Harmonic Distortion		**0.009 %**
I.M. Distortion		0.009 %
Speaker Damping		> 20
PREAMPLIFIER SECTION Frequency Response		
	Phono (RIAA)	±0.2 dB
	Aux (20 Hz – 20 kHz)	±0.2 dB
Input Sensitivity and Impedance		
	Phono	2.5 mV/50 kΩ
	Tape Monitor 1, 2	150 mV/50 kΩ
	Tuner	150 mV/50 kΩ
	CD/Aux/Video	150 mV/50 kΩ
Phono Max. Input Capability		200 mV
Parametric Equalizer		
	25 Hz – 800 Hz	±12 dB
	600 Hz – 20 kHz	±12 dB
High Filter (Above 10 kHz)		–6 dB/Oct.
Subsonic Filter (Below 10 Hz)		–12 dB/Oct.
Loudness Contour (100 Hz/10 kHz)		+8 dB/+4 dB
Hum & Noise (IHF Short Circuit, A Network)		
	Phono	75 dB
	Tape Monitor 1, 2	100 dB
	Tuner	100 dB
	CD/Aux/Video	100 dB
GENERAL Power Requirements (50 Hz)		110 / 220 V AC
Power Consumption		850 Watts
Dimensions (W x D x H)		440 x 292 x 140 mm
Weight (approx.)		12.4 kg

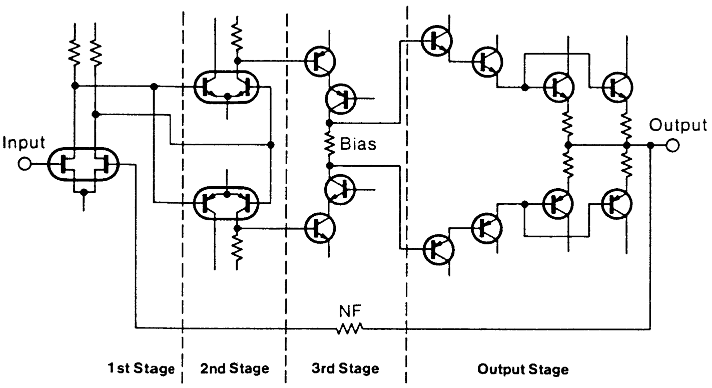
Because its products are subject to continuous improvement, Fisher Corporation reserves the right to modify product designs and specifications without notice and without incurring any obligation.

CIRCUIT DESCRIPTION

COMPOSITION OF POWER AMPLIFIER

The DC coupling of the input became possible with the differential FET amplifier used in the first stage and the distotion was reduced from the second stage to the final one in the complementary push-pull configuration.
The second stage is composed of the differential complementary push-pull, the third stage the cascade complementary push-pull, the out put stage the triple Darlington push-pull, and the final stage is especially composed of the parabolic push to allow the output of 150W.

Power Amplifier Block Diagram



FTC Power 150W x 2 (Distortion 0.009%)

FORCED COOLING SYSTEM

The forced cooling system is adopted as a heat radiation system of the 150W amplifier and the AC motor having low noise is used as a fan motor. The fan does not rotate continuouisly. It starts rotating when the thermosensor, connected thermally at the vicinity of the output-stage transistor, detects the temperature 85°C – 90°C of the power transistor. When the temperature of the heat radiation plate drops below 85°C, the fan stops rotating.
If the temeprature does not reach the detectable range due to small output, the fan does not start rotating.

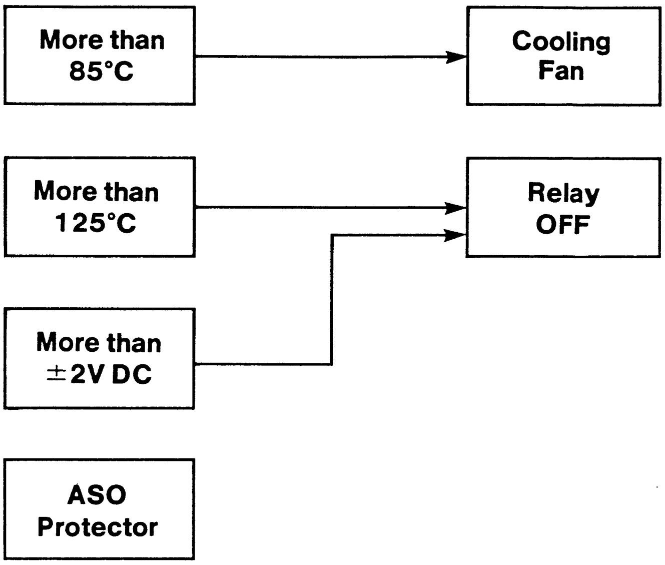
PROTECTION CIRCUIT

If the fan cooling system does not function by any possibility and the temperature of the power transistor rises to about 125°C, anather thermosensor starts functioning, so that the relay in the output circuit is set off and the speakers are disconnected from the amplifier.
Therefore, this double protection system secures the power amplifier against damages.

When DC voltage of more than ±2V is generated at the output terminal of the power amplifier, the power relay works to disconnect the speakers from the amplifier to protect them.

The ASO protector is also built in the unit to protect the ASO of the power transistor. This protector works very effectively to protect the transistor because it controls the current against the phase the rotation such as capacitance and inductance loads, etc., the overvoltage, and the loaded short-circuit current.

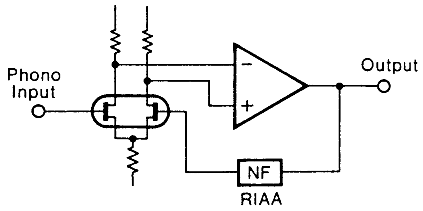
Protection System Block Diagram



PHONO EQUALIZER CIRCUIT

The differential FET amplifier having low noise is used in the first stage and it makes possible the DC coupling from the Player cartrige. It is also shown as an effect of the FET circuit that the amplifier has excellent capability to exclude the external power source.

Phono Equalizer Block Diagram



AUTO FUNCTION & SYNCHRO RECORDING

When the amplifier CA-276 is used in combination with the optionally available tuner FM-276, turntable MT-750, double cassette deck CR-W80 and compact disc player AD-844, the auto function and synchro (simultaneous) recording can be used to full advantage.

AUTO FUNCTION:

To operate . . .

- For radio reception:
  Press the desired preset station button on tuner.

CIRCUIT DESCRIPTION (Continued)

- To listen to a record:
  Press the START/REJECT button on the turntable.
- For tape playback:
  Press the PLAY button on DECK 1 or DECK 2 of the double cassette deck.
- To listen to a compact disc:
  Press the PLAY/PAUSE button on the compact disc player.

Any of the above mentioned actions automatically sets the amplifier's FUNCTION selector to the correct mode.

SYNCHRO RECORDING:

When music from a record or compact disc is being recorded, the PAUSE button on DECK 2 of the double cassette deck is automatically released or set to the depressed position in synchronization with the turntable's tonearm operation or the start or stop of the music on the disc.

- Synchro recording of records:
  When the tonearm is lowered, the PAUSE button on DECK 2 is automatically released and the recording mode is established.
  When the tonearm rises, a silent space of approximately 4 seconds is created, then the PAUSE button on DECK 2 is automatically set to the depressed position and the pause mode is established.
- Synchro recording of compact discs:
  When the compact disc play begins, the PAUSE button on DECK 2 is automatically released and the recording mode is established.
  When the compact disc play temporarily stops, a silent space of approximately 4 seconds is created, then the PAUSE button on DECK 2 is automatically set to the depressed position and the pause mode is established.

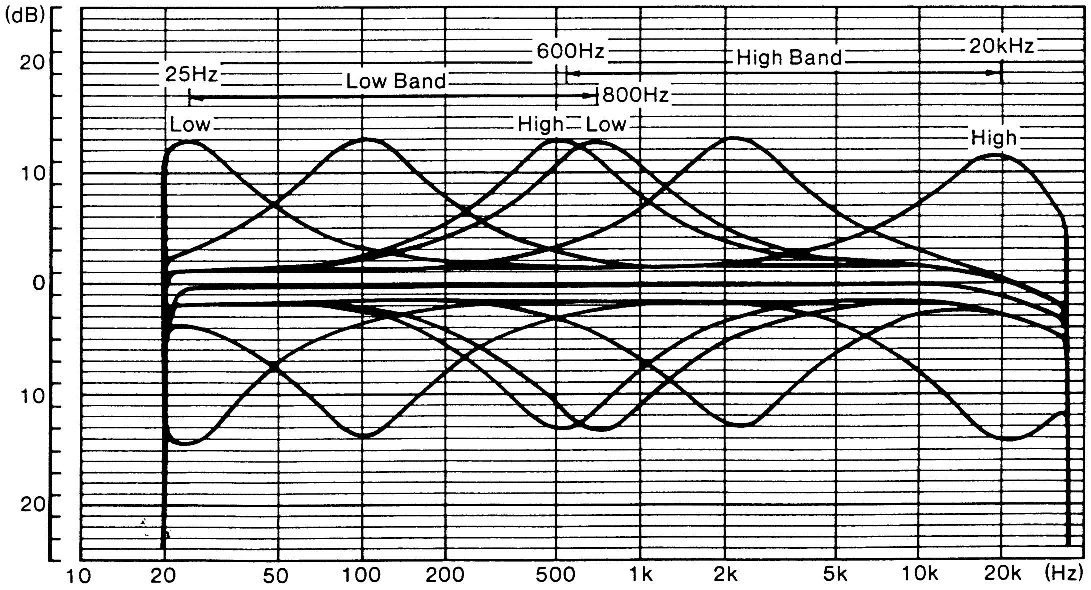
PARAMETRIC EQUALIZER CONTROLS

This unit is equipped with a sophisticated PARAMETRIC EQUALIZER that allows precision control over 3 audio parameters – center frequency, frequency band width and boost/cut level – while maintaining high sound quality.
Use the PARAMETRIC EQUALIZER controls to compensate for adverse room acoustics, to reduce noise from noisy music sources, to create new sounds, or simply to adjust and maintain the ideal response of the entire playback system.
The center frequency is continuously variable from 25Hz to 800Hz for the LOW BAND, and from 600Hz to 20kHz for the HIGH BAND.
The frequency band width is adjustable from narrow to wide, while the boost/cut level can be adjusted up to ±12dB for both bands.
All 3 parameters are independently adjustable for even greater control over the system's frequency response.

Power Indication

The adoption of the wide display made indication of power more accurate than ever and the selection switch (200W/2W) made possible the visible indication of power at low sound intensity.

PARAMETRIC EQUALIZER CONTROLS RESPONSE



RECOMMENDED TEST EQUIPMENTS

The following test equipments are recommended to completely test and align the Amplifier:

- Line Voltage Isolation Transformer
- AC DC Multimeter
- Accurately Calibrated AC Voltmeter
- Oscilloscope (Flat to 100 kHz Minimum)
- Low-Distortion Audio Sine-Wave Generator
- Harmonic Distortion Analyzer
- Two (2) Load Resistors 8-ohms, 250 Watts (Minimum Rating)

HARMONIC DISTORTION TEST

CAUTION: Limit the following tests to no more than ten minutes each. Use 8-ohm resistors, with a minimum power rating of 250 watts when connecting a load across the SPEAKERS terminal.

CONTROL SETTINGS:

Unplug the AC power cord and set the front panel controls as follows:

- POWER switch to OFF
- SPEAKER switch to OFF
- PARAMETRIC EQUALIZER switch to DEFEAT
- METER RANGE switch to 200W position
- TAPE MONITOR switch to SOURCE
- FUNCTION switch to AUX
- HIGH FILTER switch to OFF
- SUBSONIC FILTER switch to OFF
- MODE switch to STEREO
- LOUDNESS switch to OFF
- VOLUME control to MINIMUM position
- LEFT CHANNEL DRIVEN

ONE CHANNEL DRIVEN:

1) Connect a low distortion audio generator to LEFT AUX IN jack. Set generator frequency to 1 kHz and output to minimum.

2) Connect an 8-ohm load resistor between SPEAKERS SYSTEM-A LEFT and COM terminals. Connect a Harmonic Distortion Analyzer and an AC VTVM in parallel across the 8-ohm load.

3) Connect the AC power cord and set SPEAKERS switch to ON position. Turn VOLUME control to slowly to maximum.

4) Increase generator output for 150 Watts RMS (34.6 volts across the 8-ohm load). Harmonic Distortion Analyzer should measure 0.009 % distortion or less.

5) Repeat steps 1 through 4 for RIGHT CHANNEL.

BOTH CHANNELS DRIVEN

Connect 8-ohm load resistors across LEFT and RIGHT SPEAKERS SYSTEM-A terminals. Adjust generator output and "VOLUME" control for 150 watts at Left and Right Channels (34.6 volts across the 8-ohm loads). Harmonic Distortion Analyzer should measure 0.009 % distortion or less at each channel.

CAUTION: This precision high-fidelity instrument should be serviced only by qualified personnel, trained in the repair of transistor equipment and printed circuitry.

POWER AMPLIFIER ADJUSTMENT

BEFORE ADJUSTMENT

This adjustment is very sensitive to changes in ambient temperature. Allow set to operate for 10 minutes before attempting this adjustment. and IDLING CURRENT ADJUSTMENT VR02 setting to mechanical center position.

CENTER VOLTAGE ADJUSTMENT

LEFT AMPLIFIER

1. Set the SPEAKERS switch to the OFF position.
2. Turn the MASTER VOLUME control to minimum.
3. Connect the DC VTVM between Pin No.21 on the FUSE P.C.Board. and Pin No.1 on the Power Amplifier P.C.Board.
4. Adjust the VR01 for an indication of 0V DC (± 3mV).

RIGHT AMPLIFIER

Repeat steps 3 and 4 for RIGHT channels.

IDLING CURRENT ADJUSTMENT

LEFT AMPLIFIER

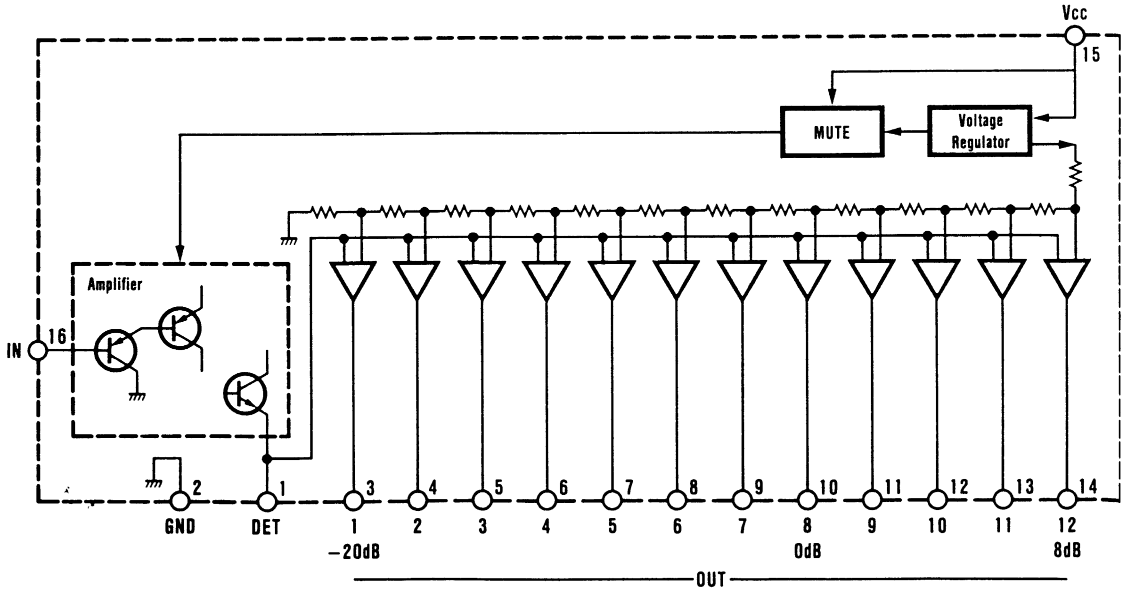
1. Set the SPEAKERS switch to the OFF position.
2. Turn the MASTER VOLUME control to minimum.
3. Connect the DC VTVM between Pins No.1 and No.3 on the Power Amplifier P.C.Board.
4. Adjust the VR02 for an indication of 3mV on the DC VTVM.

RIGHT AMPLIFIER

Repeat steps 3 and 4 for RIGHT Channels.

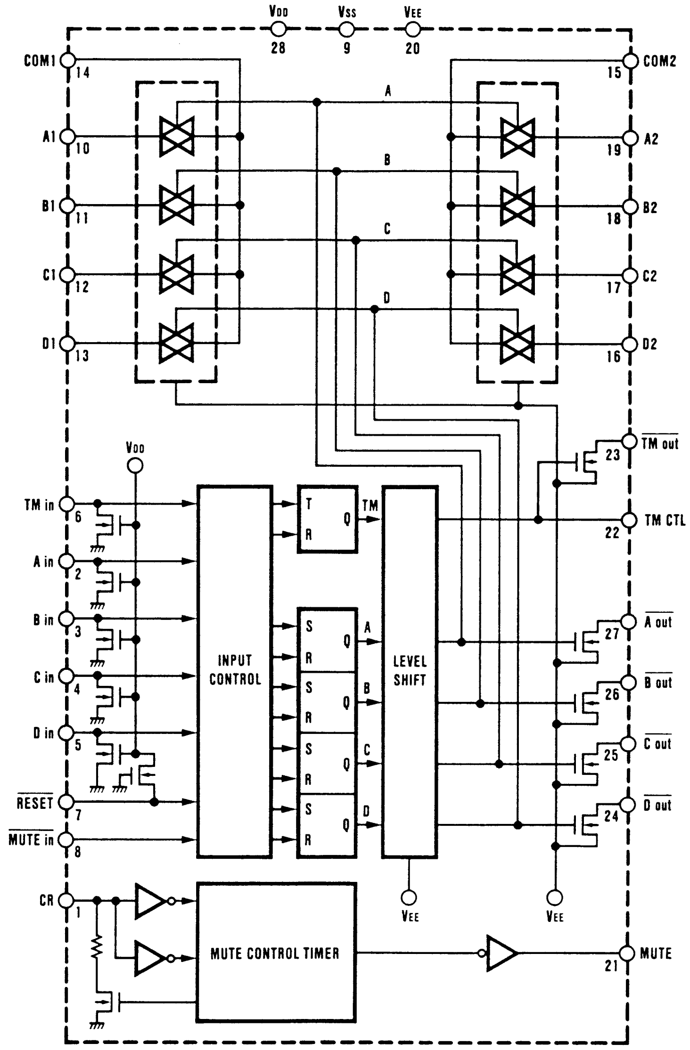
IC EQUIVALENT CIRCUIT & BLOCK DIAGRAM

POWER LEVEL METER DRIVE IC BA 6146

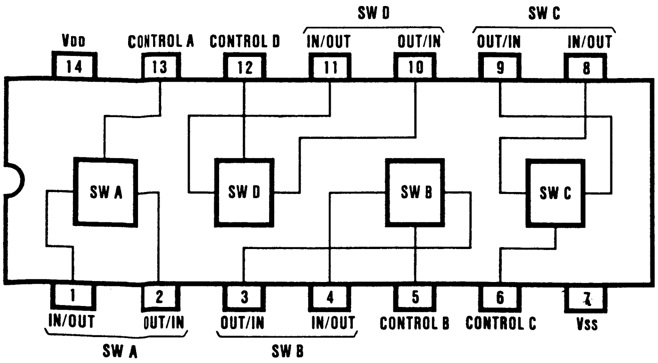

Vcc
15
MUTE
Voltage Regulator
Amplifier
IN
16
2
GND
1
DET
3
4
5
6
7
8
9
10
11
12
13
14
1
2
3
4
5
6
7
8
9
10
11
12
−20dB
0dB
8dB
OUT

IC EQUIVALENT CIRCUIT & BLOCK DIAGRAM (Continued)

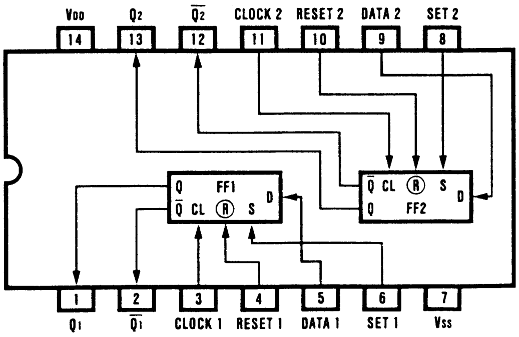
ANALOG FUNCTION SWITCH IC LC 7817


VDD
28
VSS
9
VEE
20
COM1
14
A1
10
B1
11
C1
12
D1
13
COM2
15
A2
19
B2
18
C2
17
D2
16
A
B
C
D
TM out
23
VDD
TM in
6
A in
2
B in
3
C in
4
D in
5
RESET
7
MUTE in
8
INPUT CONTROL
T
R
Q
TM
S
R
Q
A
B
C
D
LEVEL SHIFT
TM CTL
22
A out
27
B out
26
C out
25
D out
24
CR
1
MUTE CONTROL TIMER
VEE
VEE
MUTE
21

QUAD BILATERAL SWITCH IC LC 4966

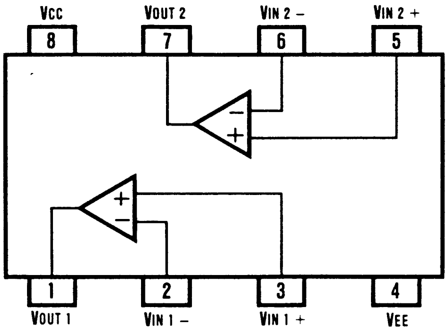

SW D
SW C
VDD
CONTROL A
CONTROL D
IN/OUT
OUT/IN
OUT/IN
IN/OUT
14
13
12
11
10
9
8
SW A
SW D
SW B
SW C
1
2
3
4
5
6
7
IN/OUT
OUT/IN
OUT/IN
IN/OUT
CONTROL B
CONTROL C
VSS
SW A
SW B

DUAL D - TYPE FLIP - FLOP IC LC 4013 B

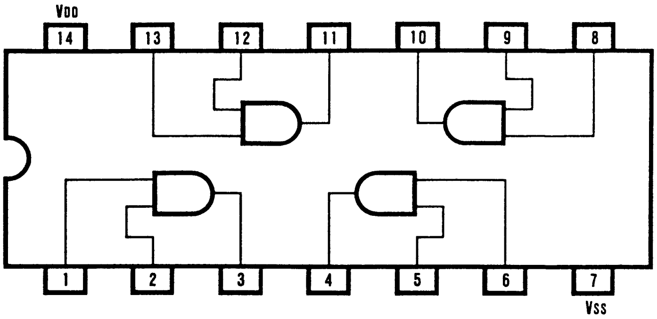

VDD
Q2
Q̄2
CLOCK 2
RESET 2
DATA 2
SET 2
14
13
12
11
10
9
8
Q̄ CL R S
Q FF2
D
Q FF1
Q̄ CL R S
D
1
2
3
4
5
6
7
Q1
Q̄1
CLOCK 1
RESET 1
DATA 1
SET 1
VSS

IC EQUIVALENT CIRCUIT & BLOCK DIAGRAM (Continued)

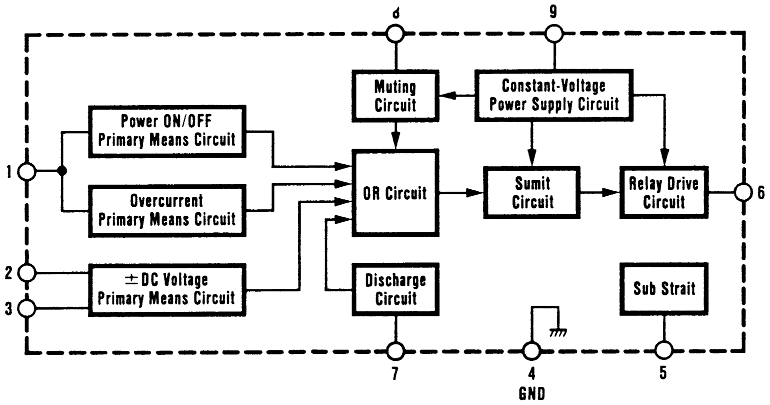
PHONO EQUALIZER AMP IC NJM 4560 DX


VCC
8
VOUT 2
7
VIN 2 −
6
VIN 2 +
5
−
+
+
−
1
VOUT 1
2
VIN 1 −
3
VIN 1 +
4
VEE

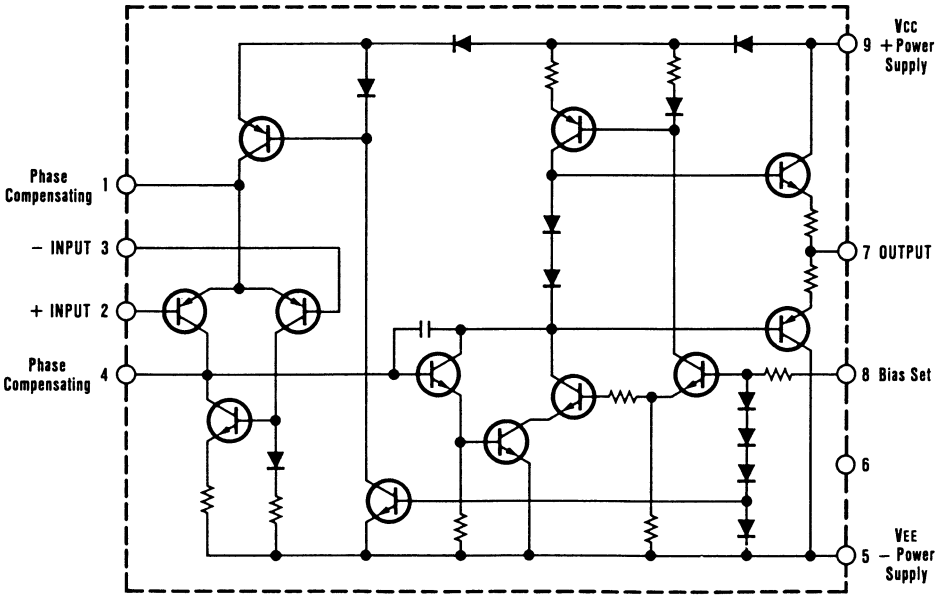
QUAD 2 - INPUT AND GATE IC LC 4081 B


VDD
14
13
12
11
10
9
8
1
2
3
4
5
6
7
VSS

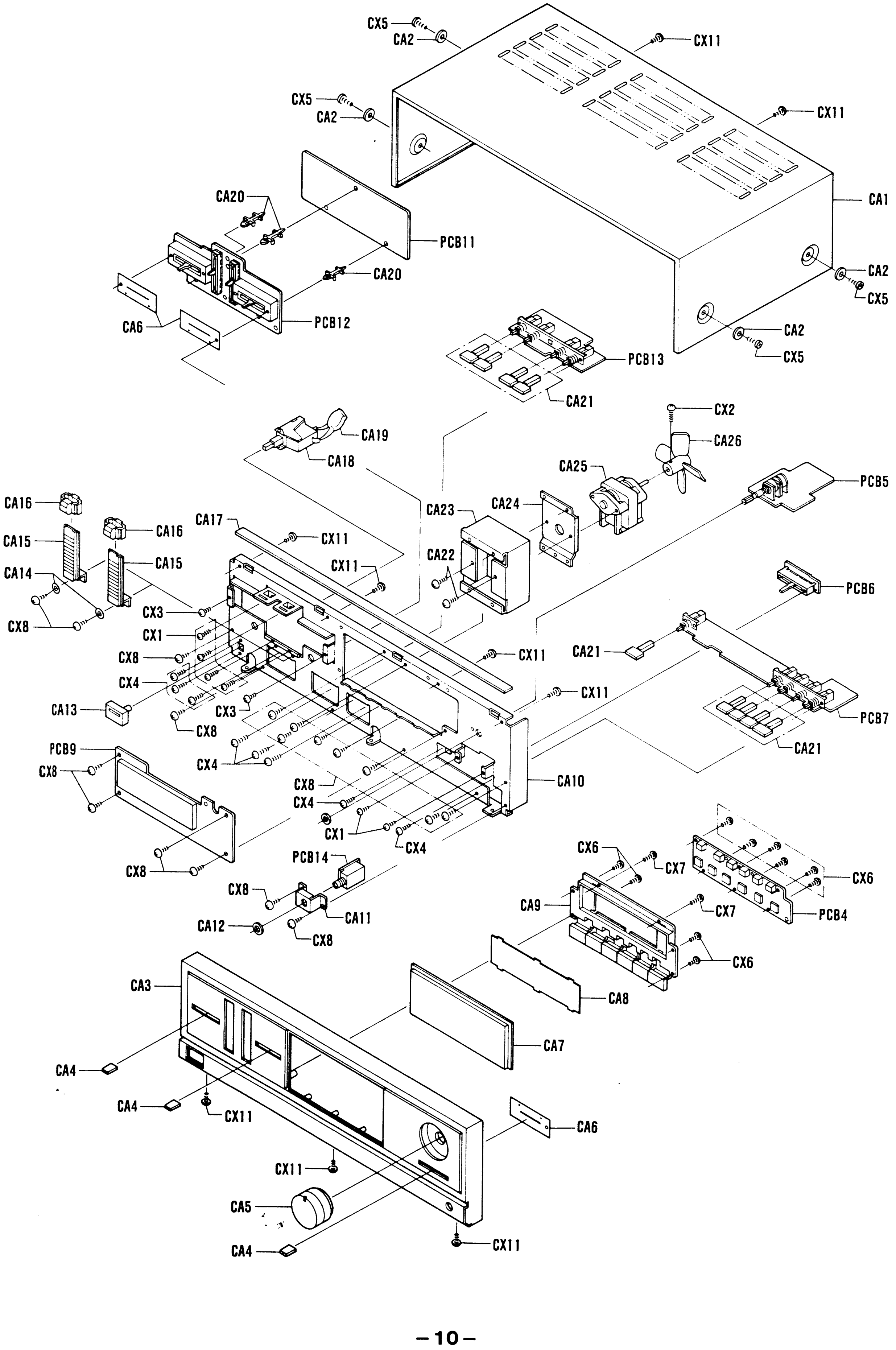
SPEAKER PROTECTOR IC TA 7317 P


8
9
Muting Circuit
Constant-Voltage Power Supply Circuit
Power ON/OFF Primary Means Circuit
1
Overcurrent Primary Means Circuit
OR Circuit
Sumit Circuit
Relay Drive Circuit
6
2
3
±DC Voltage Primary Means Circuit
Discharge Circuit
Sub Strait
7
4
GND
5

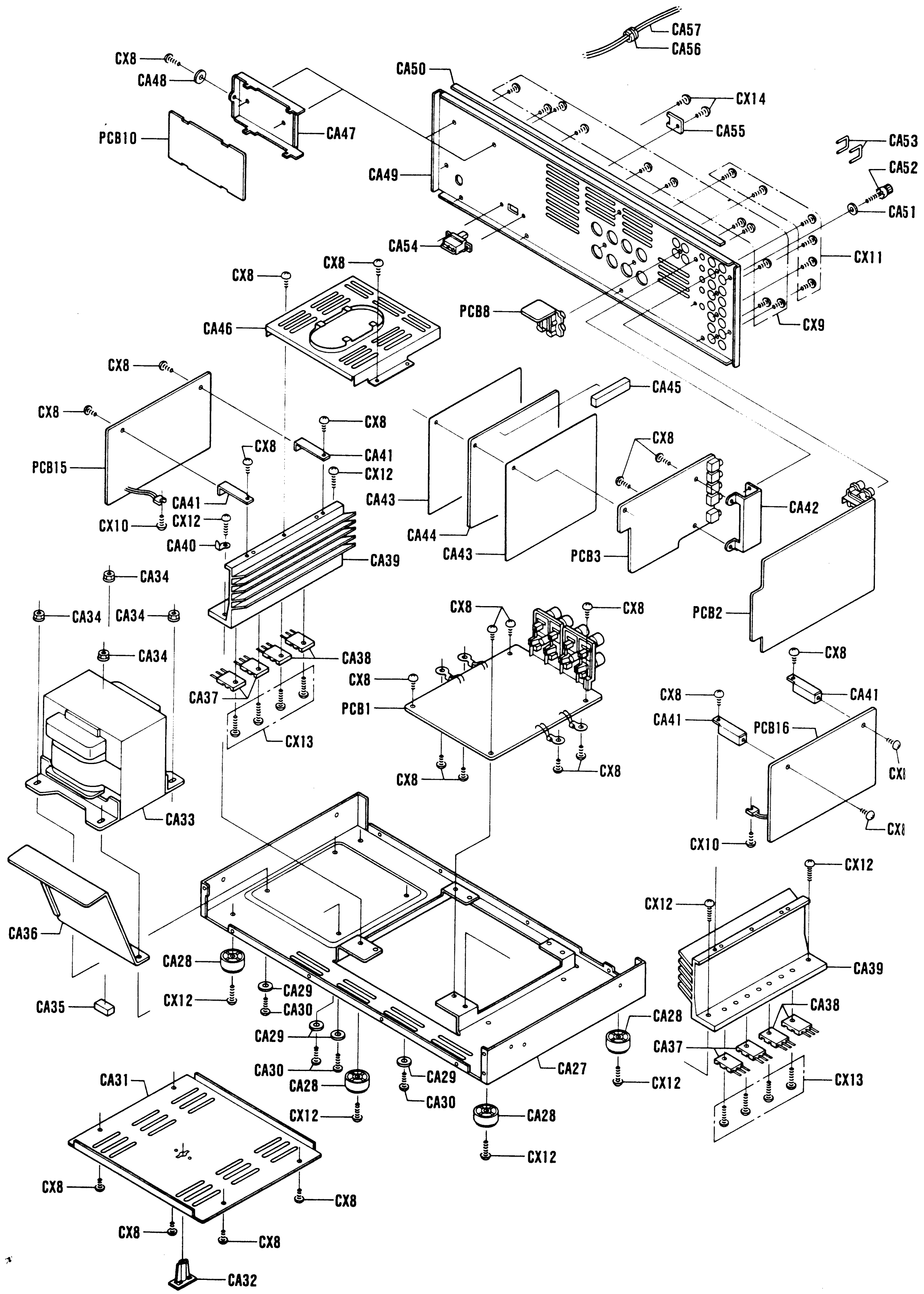
PRE AMPLIFIER IC TA 7322 P


Vcc
9 + Power Supply
Phase Compensating 1
− INPUT 3
+ INPUT 2
Phase Compensating 4
7 OUTPUT
8 Bias Set
6
VEE
5 − Power Supply

CABINET & CHASSIS EXPLODED VIEW (1)


CX5
CA2
CX11
CX5
CA2
CX11
CA1
CA20
PCB11
CA20
CA2
CX5
CA6
PCB12
CA2
CX5
PCB13
CA21
CX2
CA19
CA26
CA18
CA25
PCB5
CA16
CA23
CA24
CA17
CA16
CX11
CA15
CA22
CA15
CX11
PCB6
CA14
CX3
CX8
CX1
CX11
CA21
CX8
CX11
CX4
CA13
CX3
CX8
PCB7
CA21
PCB9
CX8
CX4
CA10
CX8
CX4
CX1
CX4
CX6
PCB14
CX7
CX6
CX8
CA9
CX7
PCB4
CA11
CA12
CX8
CX6
CA3
CA8
CA7
CA4
CA4
CX11
CA6
CX11
CA5
CA4
CX11

CABINET & CHASSIS EXPLODED VIEW (2)


CA57
CA56
CX8
CA48
CA50
CX14
PCB10
CA47
CA55
CA53
CA49
CA52
CA51
CA54
CX8
CX8
CX11
PCB8
CA46
CX9
CX8
CA45
CX8
CX8
CX8
PCB15
CX8
CA41
CX12
CA43
CA42
CA41
CX10
CX12
CA44
CA40
CA43
PCB3
CA39
CA34
CA34
CA34
PCB2
CX8
CX8
CA34
CA38
CX8
CX8
CA37
CX8
CA41
PCB1
CA41
PCB16
CX13
CX
CX8
CX8
CA33
CX
CX10
CX12
CX12
CA36
CA28
CA39
CX12
CA29
CA35
CA30
CA38
CA28
CA29
CA37
CA30
CA27
CA31
CA28
CA29
CX12
CX13
CA30
CX12
CA28
CX12
CX8
CX8
CX8
CX8
CA32

CABINET & CHASSIS PARTS LIST

PACKING PARTS LIST

Ref. No.	Part No.	Description	Q'ty
	3 9415 10300	Bag Polyethylene	1
	131 6 1169 15701	Box Corrugate-Exp.	1
	131 6 2119 02350	Bag Polyethylene-Exp.	1
	131 6 3009 35460	Pad Rear	1
	131 6 3009 35470	Pad Front	1
	131 6 3069 16350	Patching Sheet	1
	131 6 4559 10900	Manufacturing No.	2
	131 6 9459 00300	Rubber Band	1

ACCESSORIES PARTS LIST

Ref. No.	Part No.	Description	Q'ty
	131 6 2719 10801	Bag Fan	1
	131 6 4519 15700	Guarantee Certificate	1
	131 6 4559 10900	Manufacturing No.	1
	142 6 4119 32104	Explanatory Booklet	1

CABINET & CHASSIS PARTS LIST

Ref. No.	Part No.	Description	Q'ty
CA1	131 2 1410 32700	Cover	1
CA2	131 2 4203 84231	Washer, 4.2x10x0.8 B	4
CA3	131 0 1016 44200	Panel Decorate Assy	1
	131 2 1203 62900	Panel Control Power	1
	131 2 1203 63000	Panel Control	1
	131 2 1203 63100	Panel Control (Volume)	1
	131 2 1203 63200	Panel Control (Equalizer)	1
CA4	131 2 1601 71000	Knob (Equalizer, Balance)	3
CA5	131 0 1001 63300	Knob (Main Volume)	1
CA6	131 2 6113 51800	Shelter	3
CA7	131 2 1205 28100	Decorate Plate Dial	1
CA8	131 2 6308 23300	Filter	1
CA9	131 0 1001 63500	Knob (Function)	1
	131 2 1604 48700	Decorate Knob Phono	1
	131 2 1604 48701	Decorate Knob Tuner	1
	131 2 1604 48702	Decorate Knob CD	1
	131 2 1604 48703	Decorate Knob Aux	1
	131 2 1604 48704	Decorate Knob Tape	1
	131 2 1604 48705	Decorate Knob Rec	1
	131 2 6113 51300	Shelter Knob	1
CA10	131 2 3305 36100	Panel Front	1
CA11	131 2 3101 98500	Metal Mount Headphone Jack	1
CA12	131 2 4202 13400	Nut (Headphones)	1
CA13	131 2 1601 90300	Knob (Power Switch)	1
CA14	131 2 4203 83200	Washer, 3.2x8x0.5	2
CA15	131 2 6113 51200	Shelter EQ	2
CA16	131 0 1001 63400	Knob (Equalizer)	2
	131 2 1601 90400	Knob (A)	1
	131 2 1601 90500	Knob (B)	1
CA17	131 2 5205 32300	Cushion	1
CA18	⚠ 4 2319 77510	Power Switch	1
CA19	131 2 6114 01400	Cover Safety	1
CA20	131 2 3614 22200	Mount P.C.B. (Equalizer)	3
CA21	131 2 1601 70500	Knob (Speaker, Filter)	9
CA22	131 2 4201 19900	Screw, +3.0x6 Sems	2
CA23	131 2 6103 23900	Cover Shield (Motor)	1
CA24	131 2 3101 98600	Metal Mount Motor	1
CA25	4 5279 71441	Motor	1
CA26	141 2 3799 04200	Fan (Cooling Fan Motor)	1
CA27	131 2 3301 31200	Chassis	1
CA28	131 2 1801 13300	Leg	4
CA29	131 2 4203 84213	Washer, 4.2x13x1.0, Z1	4
CA30	131 2 4201 23402	Screw, Brazier Hd. Tapping-C,	4
CA31	131 2 1105 31100	Plate Bottom	1
CA32	131 2 3614 27600	Mount P.C.B. (Plate Bottom)	1
CA33	⚠ 4 2512 22920	Power Trans	1
CA34	131 2 4202 12904	Nut (Trans)	4
CA35	131 2 5205 22900	Cushion	1
CA36	131 2 6101 31000	Plate Shield (Equalizer)	1
CA37	4 2039 72120	Transistor, 2SA 1301 **(Q03,04)** Left Channel	2
CA37	4 2039 72120	Transistor, 2SA 1301 **(Q03,04)** Right Channel	2
CA38	4 2039 72110	Transistor, 2SC 3280 **(Q01,02)** Left Channel	2
CA38	4 2039 72110	Transistor, 2SC 3280 **(Q01,02)** Right Channel	2
CA39	131 2 6201 35300	Plate Heat Sink	2
CA40	4 2379 21520	Lug	1
CA41	131 2 3101 98900	Metal Mount Heat Sink	4
CA42	131 2 3101 98800	Metal Mount Auto Function	1
CA43	131 2 6107 30900	Plate Sever	2
CA44	131 2 6101 31100	Plate Shield (Function)	1
CA45	131 2 5205 33100	Cushion	1
CA46	131 2 3101 98700	Metal Mount Condenser	1
CA47	131 2 3101 99500	Metal Mount Fuse	1
CA48	131 2 4203 83224	Washer, 3.2x12x0.8T Z1	1
CA49	131 2 3306 39801	Panel Rear	1
CA50	131 2 5205 15300	Cushion	1
CA51	131 2 4203 83223	Washer, 3.2x10x1 C2	1
CA52	131 2 4201 17800	Screw Ground	1
CA53	4 2369 74040	Short Plug	2
CA54	⚠ 4 2312 01020	Switch Slide (Voltage Select)	1
CA55	131 2 7104 00500	Plate Pad Switch	1
CA56	131 2 6111 14200	Bushing (Power Cord)	1
CA57	⚠ 4 2432 00340	Power Cord	1
C01 ⚠	4 2239 70970	Capacitor 0.01µF 400V	1
C02	CI2 2 3160 NG00R	Boundary 22000pF 16V ±30%	1
C03	CC4 7 3500 ZG00C	Ceramic 0.047µF 50V +80,-20%	1

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual.

Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

CABINET & CHASSIS PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty
	P.C.B. ASSY PARTS LIST		
PCB1	141 0 1939 07561	Power Supply Protect P.C.B. Assy	1
PCB2	141 0 1939 07411	EQ, Function P.C.B. Assy	1
PCB3	141 0 1939 07420	Auto Function P.C.B. Assy	1
PCB4	141 0 1939 07430	LED IND./Touch Switch P.C.B. Assy	1
PCB5	141 0 1939 07440	Volume P.C.B. Assy	1
PCB6	141 0 1939 07450	Balance Volume P.C.B. Assy	1
PCB7	141 0 1939 07460	Pre Amp. P.C.B. Assy	1
PCB8	141 0 1939 07470	Jack P.C.B. Assy	1
PCB9	141 0 1939 07480	Power Level Meter P.C.B. Assy	1
PCB10	141 0 1939 07491	Fuse P.C.B. Assy	1
PCB11	141 0 1939 07500	Parametric Tone P.C.B. Assy	1
PCB12	141 0 1939 07510	Parametric EQ. Volume P.C.B. Assy	1
PCB13	141 0 1939 07520	Switch P.C.B. Assy	1
PCB14	141 0 1939 07530	Headphone Jack P.C.B. Assy	1
PCB15	141 0 1939 07540	Power Amp. P.C.B. Assy (Left)	1
PCB16	141 0 1939 07550	Power Amp. P.C.B. Assy (Right)	1
	SCREW PARTS LIST		
CX1	101 3 1302 00311	Screw, Pan Hd., +M2.0x3	6
CX2	101 3 1302 60811	Screw, Pan Hd., +M2.6x8	1
CX3	101 3 1303 00411	Screw, Pan Hd., +M3.0x4	2
CX4	101 3 1303 00611	Screw, Pan Hd., +M3.0x6	8
CX5	143 3 1704 00818	Screw, Bind Hd. Tapping-B, +M4.0x8	4
CX6	143 3 1902 60611	Screw, Brazier Hd. Tapping-B, +M2.6x6	10
CX7	143 3 1902 60811	Screw, Brazier Hd. Tapping-B, +M2.6x8	2
CX8	143 3 1903 00611	Screw, Brazier Hd. Tapping-B, +M3.0x6	43
CX9	143 3 1903 00618	Screw, Brazier Hd. Tapping-B, +M3.0x6	12
CX10	143 3 1903 00811	Screw, Brazier Hd. Tapping-B, +M3.0x8	2
CX11	143 3 1903 00818	Screw, Brazier Hd. Tapping-B, +M3.0x8	16
CX12	143 3 1903 01011	Screw, Brazier Hd. Tapping-B, +M3.0x10	8
CX13	143 3 1903 01211	Screw, Brazier Hd. Tapping-B, +M3.0x12	8
CX14	101 3 1303 00618	Screw, Pan Hd., +M3.0x6	2

NOTES:

1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

P.C.BOARD PARTS LIST

Ref. No.	Part No.	Description				Q'ty
	POWER SUPPLY PROTECT P.C.B. ASSY					
PCB1	141 0 1939 07561	Power Supply Protect P.C.B. Assy				1
	4 2262 20920	Power Supply Protect P.C.B.				1
	4 2329 70280	Relay Lead				1
	4 2329 70400	Relay				1
	4 2329 70410	Relay				2
	4 2369 73160	Connector 6P				1
	4 2379 70920	4P Speaker Terminal (Speakers)				2
	111 2 6220 11100	Wire Wrap Terminal				13
	131 2 3608 14100	Cramp Wire				1
	131 2 6201 21500	Plate Heat Sink				1
	131 2 6201 29800	Heat Sink				1
CA01	4 2359 76586	Connector 6P Assy				1
CA02	4 2359 76587	Connector 6P Assy				1
CA03	4 2359 77390	Connector 3P Assy				1
CA04	4 2359 77398	Connector 8P Assy				1
	CAPACITORS					
C01	CD4 7 7160 0001V	Electrolytic	470μF	16V		1
C02	CD4 7 7160 0001V	Electrolytic	470μF	16V		1
C03	4 2239 72110	Electrolytic	10000μF	80V		1
C04	4 2239 72110	Electrolytic	10000μF	80V		1
C05	CC1 0 3501 YEY0C	Ceramic	0.01μF	500V	+100,-0%	1
C06	CC1 0 3501 YEY0C	Ceramic	0.01μF	500V	+100,-0%	1
C07	CC1 0 3501 YEY0C	Ceramic	0.01μF	500V	+100,-0%	1
C08	CC1 0 3501 YEY0C	Ceramic	0.01μF	500V	+100,-0%	1
C09	CC1 0 3501 YEY0C	Ceramic	0.01μF	500V	+100,-0%	1
C10	CC1 0 3501 YEY0C	Ceramic	0.01μF	500V	+100,-0%	1
C11	CC1 0 3501 YEY0C	Ceramic	0.01μF	500V	+100,-0%	1
C12	CC1 0 3501 YEY0C	Ceramic	0.01μF	500V	+100,-0%	1
C13	CC1 0 3501 YEY0C	Ceramic	0.01μF	500V	+100,-0%	1
C14	CC1 0 3501 YEY0C	Ceramic	0.01μF	500V	+100,-0%	1
C15	CC1 0 3501 YEY0C	Ceramic	0.01μF	500V	+100,-0%	1
C16	CC1 0 3501 YEY0C	Ceramic	0.01μF	500V	+100,-0%	1
C17	CB4 7 6500 0000V	None-polar	47μF	50V		1
C18	CD1 0 5500 0001V	Electrolytic	1μF	50V		1
C19	CD1 0 6250 0001V	Electrolytic	10μF	25V		1
C20	CD2 2 6100 0001V	Electrolytic	22μF	10V		1
C21	CD4 7 4500 0001V	Electrolytic	0.47μF	50V		1
C22	CD4 7 6250 0001V	Electrolytic	47μF	25V		1
C23	4 2239 72080	Electrolytic	470μF	40V		1
C24	4 2239 72080	Electrolytic	470μF	40V		1
C25	CD1 0 7250 0006V	Electrolytic	100μF	25V		1
C26	CD1 0 7250 0006V	Electrolytic	100μF	25V		1
C27	CK3 3 3401 M000V	Mylar	0.033μF	400V	±20%	1
C28	CC1 0 3501 YEY0C	Ceramic	0.01μF	500V	+100,-0%	1
C31	CC1 0 2500 KE00R	Ceramic	1000pF	50V	±10%	1
C32	CC1 0 2500 KE00R	Ceramic	1000pF	50V	±10%	1
C33	CC1 0 2500 KE00C	Ceramic	0.001μF	50V	±10%	1
C34	CC1 0 2500 KE00C	Ceramic	0.001μF	50V	±10%	1
	SEMICONDUCTORS					
D01	202 5 2500 13541	Diode, DS 135				1
D02	202 5 2500 13541	Diode, DS 135				1
D03	202 5 2500 13541	Diode, DS 135				1
D04	202 5 2500 13541	Diode, DS 135				1
D05	202 5 2500 13541	Diode, DS 135				1
D06	202 5 2500 13541	Diode, DS 135				1
D07	202 5 2500 13541	Diode, DS 135				1
D08 ⚠	202 5 3510 02010	Diode, S1RBA 20				1
D09 ⚠	202 5 3510 02010	Diode, S1RBA 20				1
D10 ⚠	202 5 2780 10015	Bridge Diode, DBA 100 C				1
DZ01	202 5 3210 15012	Zener Diode, GZA 15 Y				1
IC01	4 2069 73810	IC, TA 7317 P				1

Ref. No.	Part No.	Description				Q'ty
IC02	4 2069 73820	IC, NJM 78 M24				1
IC03	4 2069 73830	IC, NJM 79 M24				1
Q01	203 5 7252 27450	Transistor, 2SC 2274				1
P01	4 2039 72050	Posistor, PTH487A-BB				1
P02	4 2039 72050	Posistor, PTH487A-BB				1
P03	4 2039 72051	Posistor, PTH487A-BF				1
P04	4 2039 72051	Posistor, PTH487A-BF				1
	RESISTORS					
R01	RD1 8 4251 JM000	Carbon	180kΩ	1/4W	±5%	1
R02	RD4 7 3251 JM000	Carbon	47kΩ	1/4W	±5%	1
R03	RD6 8 2251 JM000	Carbon	6.8kΩ	1/4W	±5%	1
R04	RD3 9 2251 JM000	Carbon	3.9kΩ	1/4W	±5%	1
R05	RD1 0 3251 JM000	Carbon	10kΩ	1/4W	±5%	1
R06	RD1 0 4251 JM000	Carbon	100kΩ	1/4W	±5%	1
R07	RD1 5 3251 JM000	Carbon	15kΩ	1/4W	±5%	1
R08	RD5 6 3251 JM000	Carbon	56kΩ	1/4W	±5%	1
R09	RD3 3 3251 JM000	Carbon	33kΩ	1/4W	±5%	1
R10	RD6 8 2251 JM000	Carbon	6.8kΩ	1/4W	±5%	1
R11	RD1 5 4251 JM000	Carbon	150kΩ	1/4W	±5%	1
R12	RD1 5 4251 JM000	Carbon	150kΩ	1/4W	±5%	1
R13	RD1 5 3251 JM000	Carbon	15kΩ	1/4W	±5%	1
R14	RD5 6 3251 JM000	Carbon	56kΩ	1/4W	±5%	1
R15	RD5 6 3251 JM000	Carbon	56kΩ	1/4W	±5%	1
R16	RD4 7 3251 JM000	Carbon	47kΩ	1/4W	±5%	1
R17	RF1 0 0501 JZ000	Fuse	10Ω	1/2W	±5%	1
R18	RF1 0 0501 JZ000	Fuse	10Ω	1/2W	±5%	1
R19	RH4 7 1501 JZ000	Metal	470Ω	1/2W	±5%	1
R20	RH6 8 1202 JZ000	Metal	680Ω	2W	±5%	1
R21	RH6 8 1202 JZ000	Metal	680Ω	2W	±5%	1
R22	RH1 2 1102 KZ000	Metal	120Ω	1W	±10%	1
R23	RH1 2 1102 KZ000	Metal	120Ω	1W	±10%	1
R24	RH2 7 1102 JZ000	Metal	270Ω	1W	±5%	1
	EQ, FUNCTION P.C.B. ASSY					
PCB2	141 0 1939 07411	EQ, Function P.C.B. Assy				1
	4 2262 20770	EQ, Function P.C.B.				1
	4 2352 01700	Pin Jack 4P (Phono, Tuner)				1
	4 2352 01700	Pin Jack 4P (CD, Aux/Video)				1
	4 2352 01700	Pin Jack 4P (Tape 1)				1
	4 2352 01700	Pin Jack 4P (Tape 2)				1
CN06	4 2369 73410	Connector 7P				1
	141 2 3229 44600	Plate Shield				1
	131 0 4006 31403	Cord Assy				1
J03	4 2359 77803	Connector 6P Assy				1
	CAPACITORS					
C01	CC2 2 1500 KD00C	Ceramic	220pF	50V	±10%	1
C02	CC2 2 1500 KD00C	Ceramic	220pF	50V	±10%	1
C03	CM1 0 2500 K00SV	Mylar	0.001μF	50V	±10%	1
C04	CM1 0 2500 K00SV	Mylar	0.001μF	50V	±10%	1
C05	CM1 8 3500 K00SV	Mylar	0.018μF	50V	±10%	1
C06	CM1 8 3500 K00SV	Mylar	0.018μF	50V	±10%	1
C07	CM4 7 2500 K00SV	Mylar	0.0047μF	50V	±10%	1
C08	CM4 7 2500 K00SV	Mylar	0.0047μF	50V	±10%	1
C09	CD4 7 6100 0001V	Electrolytic	47μF	10V		1
C10	CD4 7 6100 0001V	Electrolytic	47μF	10V		1
C11	CD1 0 6160 0001V	Electrolytic	10μF	16V		1
C12	CD1 0 6160 0001V	Electrolytic	10μF	16V		1
C13	CM4 7 2500 K00SV	Mylar	0.0047μF	50V	±10%	1
C14	CM4 7 2500 K00SV	Mylar	0.0047μF	50V	±10%	1
C15	CD2 2 7250 0001V	Electrolytic	220μF	25V		1
C16	CD2 2 7250 0001V	Electrolytic	220μF	25V		1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description				Q'ty
C17	CD2 2 7250 0001V	Electrolytic	220μF	25V		1
C18	CD2 2 7250 0001V	Electrolytic	220μF	25V		1
C19	CD1 0 5500 0001V	Electrolytic	1μF	50V		1
C20	CD2 2 5500 0001V	Electrolytic	2.2μF	50V		1
C21	CD1 0 8250 0001V	Electrolytic	1000μF	25V		1
C22	CC4 7 3500 ZG00C	Ceramic	0.047μF	50V	+80,-20%	1
C25	CC2 2 1500 KD00C	Ceramic	220pF	50V	±10%	1
C26	CC2 2 1500 KD00C	Ceramic	220pF	50V	±10%	1
	SEMICONDUCTORS					
D01	202 5 3210 20012	Zener Diode, GZA 20 Y				1
D02	202 5 3210 20012	Zener Diode, GZA 20 Y				1
D03	202 5 3210 15012	Zener Diode, GZA 15 Y				1
D04	202 5 3210 15012	Zener Diode, GZA 15 Y				1
D05	205 5 9040 44210	Diode, DS 442				1
D06	205 5 9040 44210	Diode, DS 442				1
D07	205 5 9040 44210	Diode, DS 442				1
D08	205 5 9040 44210	Diode, DS 442				1
IC01	IJJ - NJM4560DX	IC, NJM 4560 DX				1
IC02	207 5 9487 81710	IC, LC 7817				1
IC03	207 5 8804 96610	IC, LC 4966				1
IC04	207 5 8804 96610	IC, LC 4966				1
Q01	4 2039 72040	FET, 2SK 389				1
Q02	4 2039 72040	FET, 2SK 389				1
Q03	203 5 5000 53670	Transistor, 2SC 536				1
Q04	203 5 5000 53670	Transistor, 2SC 536				1
	RESISTORS					
R01	RD1 0 4161 JH000	Carbon	100kΩ	1/6W	±5%	1
R02	RD1 0 4161 JH000	Carbon	100kΩ	1/6W	±5%	1
R03	RD1 0 2161 JH000	Carbon	1kΩ	1/6W	±5%	1
R04	RD1 0 2161 JH000	Carbon	1kΩ	1/6W	±5%	1
R05	RD1 0 4161 JH000	Carbon	100kΩ	1/6W	±5%	1
R06	RD1 0 4161 JH000	Carbon	100kΩ	1/6W	±5%	1
R07	RD3 9 2161 JH000	Carbon	3.9kΩ	1/6W	±5%	1
R08	RD3 9 2161 JH000	Carbon	3.9kΩ	1/6W	±5%	1
R09	RD3 9 2161 JH000	Carbon	3.9kΩ	1/6W	±5%	1
R10	RD3 9 2161 JH000	Carbon	3.9kΩ	1/6W	±5%	1
R11	RD4 7 2161 JH000	Carbon	4.7kΩ	1/6W	±5%	1
R12	RD4 7 2161 JH000	Carbon	4.7kΩ	1/6W	±5%	1
R13	RD1 0 1161 JH000	Carbon	100Ω	1/6W	±5%	1
R14	RD1 0 1161 JH000	Carbon	100Ω	1/6W	±5%	1
R15	RD2 7 1161 JH000	Carbon	270Ω	1/6W	±5%	1
R16	RD2 7 1161 JH000	Carbon	270Ω	1/6W	±5%	1
R17	RD2 2 4161 JH000	Carbon	220kΩ	1/6W	±5%	1
R18	RD2 2 4161 JH000	Carbon	220kΩ	1/6W	±5%	1
R19	RD1 5 3161 JH000	Carbon	15kΩ	1/6W	±5%	1
R20	RD1 5 3161 JH000	Carbon	15kΩ	1/6W	±5%	1
R21	RD4 7 1251 JM000	Carbon	470Ω	1/4W	±5%	1
R22	RD4 7 1251 JM000	Carbon	470Ω	1/4W	±5%	1
R23	RD1 0 4161 JH000	Carbon	100kΩ	1/6W	±5%	1
R24	RD1 0 4161 JH000	Carbon	100kΩ	1/6W	±5%	1
R25	RD1 0 2161 JH000	Carbon	1kΩ	1/6W	±5%	1
R26	RD1 0 2161 JH000	Carbon	1kΩ	1/6W	±5%	1
R27	RD6 8 4161 JH000	Carbon	680kΩ	1/6W	±5%	1
R28	RD6 8 4161 JH000	Carbon	680kΩ	1/6W	±5%	1
R29	RD1 0 2161 JH000	Carbon	1kΩ	1/6W	±5%	1
R30	RD1 0 2161 JH000	Carbon	1kΩ	1/6W	±5%	1
R31	RD6 8 4161 JH000	Carbon	680kΩ	1/6W	±5%	1
R32	RD6 8 4161 JH000	Carbon	680kΩ	1/6W	±5%	1
R33	RD1 0 2161 JH000	Carbon	1kΩ	1/6W	±5%	1
R34	RD1 0 2161 JH000	Carbon	1kΩ	1/6W	±5%	1
R35	RD6 8 4161 JH000	Carbon	680kΩ	1/6W	±5%	1
R36	RD6 8 4161 JH000	Carbon	680kΩ	1/6W	±5%	1
R37	RD1 0 2161 JH000	Carbon	1kΩ	1/6W	±5%	1
R38	RD1 0 2161 JH000	Carbon	1kΩ	1/6W	±5%	1
R39	RD4 7 4161 JH000	Carbon	470kΩ	1/6W	±5%	1
R40	RD4 7 4161 JH000	Carbon	470kΩ	1/6W	±5%	1
R41	RD1 0 2161 JH000	Carbon	1kΩ	1/6W	±5%	1
R42	RD1 0 2161 JH000	Carbon	1kΩ	1/6W	±5%	1
R43	RD4 7 4161 JH000	Carbon	470kΩ	1/6W	±5%	1
R44	RD4 7 4161 JH000	Carbon	470kΩ	1/6W	±5%	1
R45	RD3 3 3251 JM000	Carbon	33kΩ	1/4W	±5%	1
R46	RD1 0 4161 JH000	Carbon	100kΩ	1/6W	±5%	1
R47	RD3 9 3251 JM000	Carbon	39kΩ	1/4W	±5%	1
R48	RD5 6 3251 JM000	Carbon	56kΩ	1/4W	±5%	1
R49	RD1 0 2251 JM000	Carbon	1kΩ	1/4W	±5%	1
R50	RD2 2 4161 JH000	Carbon	220kΩ	1/6W	±5%	1
R51	RD2 2 4251 JM000	Carbon	220kΩ	1/4W	±5%	1
R52	RD1 2 4251 JM000	Carbon	120kΩ	1/4W	±5%	1
R53	RD2 2 4251 JM000	Carbon	220kΩ	1/4W	±5%	1
R54	RD1 2 4251 JM000	Carbon	120kΩ	1/4W	±5%	1
R55	RD4 7 3161 JH000	Carbon	47kΩ	1/6W	±5%	1
R56	RD3 3 2251 JM000	Carbon	3.3kΩ	1/4W	±5%	1
R57	RD2 2 3251 JM000	Carbon	22kΩ	1/4W	±5%	1
R58	RD2 7 2251 JM000	Carbon	2.7kΩ	1/4W	±5%	1
R59	RH1 2 2102 JZ000	Metal	1.2kΩ	1W	±5%	1
R60	RD4 7 4251 JM000	Carbon	470kΩ	1/4W	±5%	1
R61	RD1 0 2161 JH000	Carbon	1kΩ	1/6W	±5%	1
R62	RD1 0 2161 JH000	Carbon	1kΩ	1/6W	±5%	1
R63	RD4 7 4161 JH000	Carbon	470kΩ	1/6W	±5%	1
R64	RD4 7 4161 JH000	Carbon	470kΩ	1/6W	±5%	1
R65	RD1 0 2161 JH000	Carbon	1kΩ	1/6W	±5%	1
R66	RD1 0 2161 JH000	Carbon	1kΩ	1/6W	±5%	1
R67	RD3 9 4161 JH000	Carbon	390kΩ	1/6W	±5%	1
R68	RD3 9 4161 JH000	Carbon	390kΩ	1/6W	±5%	1
R69	RF1 5 1251 JK000	Fuse	150Ω	1/4W	±5%	1
R70	RF1 5 1251 JK000	Fuse	150Ω	1/4W	±5%	1
R71	RF1 2 1251 JK000	Fuse	120Ω	1/4W	±5%	1
R72	RF1 2 1251 JK000	Fuse	120Ω	1/4W	±5%	1
R73	RD2 2 3251 JM000	Carbon	22kΩ	1/4W	±5%	1
R74	RD1 0 4161 JH000	Carbon	100kΩ	1/6W	±5%	1
R75	RD3 9 3161 JH000	Carbon	39kΩ	1/6W	±5%	1
R76	RD4 7 4251 JM000	Carbon	470kΩ	1/4W	±5%	1
R77	RD2 2 3251 JM000	Carbon	22kΩ	1/4W	±5%	1
R78	RD3 3 1251 JM000	Carbon	330Ω	1/4W	±5%	1
R79	RD3 3 1251 JM000	Carbon	330Ω	1/4W	±5%	1
	AUTO FUNCTION P.C.B. ASSY					
PCB3	141 0 1939 07420	Auto Function P.C.B. Assy				1
	4 2262 20780	Auto Function P.C.B.				1
	4 2352 01730	Jack 3P (Phono)				1
	4 2352 01730	Jack 3P (Tuner)				1
	4 2352 01730	Jack 3P (CD)				1
	4 2352 01730	Jack 3P (Aux/Video)				1
	4 2352 01730	Jack 3P (Tape 1)				1
CN05	4 2362 00900	Plug 8P				1
	CAPACITORS					
C01	CD2 2 5500 0001V	Electrolytic	2.2μF	50V		1
C02	CD2 2 7250 0001V	Electrolytic	220μF	25V		1
C03	CD2 2 7160 0001V	Electrolytic	220μF	16V		1
C04	CC1 0 3500 ZG00C	Ceramic	0.01μF	50V	+80,-20%	1
C05	CI1 0 3250 MF00R	Boundary	0.01μF	25V	±20%	1
C06	CI1 0 3250 MF00R	Boundary	0.01μF	25V	±20%	1
C07	CI1 0 3250 MF00R	Boundary	0.01μF	25V	±20%	1
C08	CI1 0 3250 MF00R	Boundary	0.01μF	25V	±20%	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description				Q'ty
C09	CI1 0 3250 MF00R	Boundary	0.01μF	25V	±20%	1
C11	CD1 0 5500 0001V	Electrolytic	1μF	50V		1
C12	CD1 0 5500 0001V	Electrolytic	1μF	50V		1
C13	CD1 0 5500 0001V	Electrolytic	1μF	50V		1
C14	CD1 0 5500 0001V	Electrolytic	1μF	50V		1
C15	CD1 0 5500 0001V	Electrolytic	1μF	50V		1
	SEMICONDUCTORS					
D01	205 5 9040 44210	Diode, DS 442				1
D02	205 5 9040 44210	Diode, DS 442				1
D03	205 5 9040 44210	Diode, DS 442				1
D04	205 5 9040 44210	Diode, DS 442				1
D05	205 5 9040 44210	Diode, DS 442				1
D06	205 5 9040 44210	Diode, DS 442				1
D07	205 5 9040 44210	Diode, DS 442				1
D08	205 5 9040 44210	Diode, DS 442				1
D09	205 5 9040 44210	Diode, DS 442				1
D10	205 5 9040 44210	Diode, DS 442				1
D11	205 5 9040 44210	Diode, DS 442				1
D12	205 5 9040 44210	Diode, DS 442				1
D13	205 5 9040 44210	Diode, DS 442				1
D14	205 5 9040 44210	Diode, DS 442				1
D15	205 5 9040 44210	Diode, DS 442				1
D16	205 5 9040 44210	Diode, DS 442				1
D17	205 5 9040 44210	Diode, DS 442				1
D18	205 5 9040 44210	Diode, DS 442				1
D19	205 5 9040 44210	Diode, DS 442				1
D20	205 5 9040 44210	Diode, DS 442				1
D21	205 5 9040 44210	Diode, DS 442				1
D22	205 5 9040 44210	Diode, DS 442				1
D23	205 5 9040 44210	Diode, DS 442				1
D24	205 5 9040 44210	Diode, DS 442				1
D25	205 5 9040 44210	Diode, DS 442				1
D26	202 5 3210 10012	Zener Diode, GZA 10 Y				1
IC01	206 5 9464 01310	IC, LC 4013 B				1
IC02	206 5 9494 08110	IC, LC 4081 B				1
Q01	203 5 5000 53670	Transistor, 2SC 536				1
Q02	203 5 5000 53670	Transistor, 2SC 536				1
Q03	203 5 5000 53670	Transistor, 2SC 536				1
Q04	203 5 5000 53670	Transistor, 2SC 536				1
Q05	203 5 5000 53670	Transistor, 2SC 536				1
Q06	203 5 5000 53670	Transistor, 2SC 536				1
Q07	203 5 5000 53670	Transistor, 2SC 536				1
Q08	203 5 5000 53670	Transistor, 2SC 536				1
Q09	203 5 5000 53670	Transistor, 2SC 536				1
Q10	203 5 5000 53670	Transistor, 2SC 536				1
Q11	203 5 5000 53670	Transistor, 2SC 536				1
	RESISTORS					
R01	RD6 8 3161 JH000	Carbon	68kΩ	1/6W	±5%	1
R02	RD6 8 3161 JH000	Carbon	68kΩ	1/6W	±5%	1
R03	RD6 8 3161 JH000	Carbon	68kΩ	1/6W	±5%	1
R04	RD6 8 3161 JH000	Carbon	68kΩ	1/6W	±5%	1
R05	RD6 8 3161 JH000	Carbon	68kΩ	1/6W	±5%	1
R06	RD2 2 4161 JH000	Carbon	220kΩ	1/6W	±5%	1
R07	RD2 2 4161 JH000	Carbon	220kΩ	1/6W	±5%	1
R08	RD2 2 4161 JH000	Carbon	220kΩ	1/6W	±5%	1
R09	RD2 2 4161 JH000	Carbon	220kΩ	1/6W	±5%	1
R10	RD3 9 3161 JH000	Carbon	39kΩ	1/6W	±5%	1
R11	RD3 3 3251 JM000	Carbon	33kΩ	1/4W	±5%	1
R12	RD3 3 3251 JM000	Carbon	33kΩ	1/4W	±5%	1
R13	RD3 3 3251 JM000	Carbon	33kΩ	1/4W	±5%	1
R14	RD3 3 3251 JM000	Carbon	33kΩ	1/4W	±5%	1
R15	RD3 3 3251 JM000	Carbon	33kΩ	1/4W	±5%	1
R16	RD1 0 3251 JM000	Carbon	10kΩ	1/4W	±5%	1

Ref. No.	Part No.	Description				Q'ty
R17	RD1 0 3251 JM000	Carbon	10kΩ	1/4W	±5%	1
R18	RD1 0 3251 JM000	Carbon	10kΩ	1/4W	±5%	1
R19	RD1 0 3251 JM000	Carbon	10kΩ	1/4W	±5%	1
R20	RD1 0 3251 JM000	Carbon	10kΩ	1/4W	±5%	1
R21	RD1 0 3251 JM000	Carbon	10kΩ	1/4W	±5%	1
R22	RD1 2 2251 JM000	Carbon	1.2kΩ	1/4W	±5%	1
R23	RD1 0 3251 JM000	Carbon	10kΩ	1/4W	±5%	1
R24	RD1 0 3161 JH000	Carbon	10kΩ	1/6W	±5%	1
R25	RD6 8 3251 JM000	Carbon	68kΩ	1/4W	±5%	1
R26	RD4 7 2251 JM000	Carbon	4.7kΩ	1/4W	±5%	1
R27	RD4 7 3161 JH000	Carbon	47kΩ	1/6W	±5%	1
R28	RD1 0 4161 JH000	Carbon	100kΩ	1/6W	±5%	1
R29	RD4 7 3161 JH000	Carbon	47kΩ	1/6W	±5%	1
R30	RD1 0 4161 JH000	Carbon	100kΩ	1/6W	±5%	1
R31	RD1 0 2251 JM000	Carbon	1kΩ	1/4W	±5%	1
R32	RD1 0 4251 JM000	Carbon	100kΩ	1/4W	±5%	1
R33	RD2 2 4161 JH000	Carbon	220kΩ	1/6W	±5%	1
R34	RD8 2 1251 JM000	Carbon	820Ω	1/4W	±5%	1
R35	RF1 2 1251 JK000	Fuse	120Ω	1/4W	±5%	1
	LED IND./ TOUCH SWITCH P.C.B. ASSY					
PCB4	141 0 1939 07430	LED Ind./ Touch Switch P.C.B. Assy				1
	4 2262 20790	LED Ind./ Touch Switch P.C.B. Assy				1
S01	4 2312 01880	Key Board Switch (Phono)				1
S02	4 2312 01880	Key Board Switch (Tuner)				1
S03	4 2312 01880	Key Board Switch (CD)				1
S04	4 2312 01880	Key Board Switch (Aux/Video)				1
S05	4 2312 01880	Key Board Switch (Tape 1)				1
S06	4 2312 01880	Key Board Switch (Synchro Rec)				1
J08	4 2359 77397	Connector 8P Assy				1
J09	4 2359 77396	Connector 7P Assy				1
	SEMICONDUCTORS					
D01	4 2029 72590	L.E.D., SLF 202 B (Phono)				1
D02	4 2029 72590	L.E.D., SLF 202 B (Tuner)				1
D03	4 2029 72590	L.E.D., SLF 202 B (CD)				1
D04	4 2029 72590	L.E.D., SLF 202 B (Aux/Video)				1
D05	4 2029 72600	L.E.D., SLF 102 B (Tape 1)				1
D06	4 2029 72600	L.E.D., SLF 102 B (Synchro Rec)				1
	VOLUME P.C.B. ASSY					
PCB5	141 0 1939 07440	Volume P.C.B. Assy				1
	4 2262 20800	Volume P.C.B.				1
	4 2229 75271	VR 100kΩ-Bx2, 10kΩ-Cx2 (Volume)				1
CN04	4 2369 73130	Connector 3P				1
CN08	4 2369 73160	Connector 6P				1
	CAPACITORS					
C01	CD4 7 5250 0001V	Electrolytic	4.7μF	25V		1
C02	CD4 7 5250 0001V	Electrolytic	4.7μF	25V		1
C03	CC1 0 1500 KD00C	Ceramic	100pF	50V	±10%	1
C04	CC1 0 1500 KD00C	Ceramic	100pF	50V	±10%	1
C05	CD4 7 5250 0001V	Electrolytic	4.7μF	25V		1
C06	CD4 7 5250 0001V	Electrolytic	4.7μF	25V		1
C07	CM1 0 3500 K00SV	Mylar	0.01μF	50V	±10%	1
	SEMICONDUCTORS					
Q01	TTT - 2SC2 240-G	Transistor, 2SC 2240				1
Q02	TTT - 2SC2 240-G	Transistor, 2SC 2240				1
Q03	203 5 4921 01270	Transistor, 2SD 1012				1
Q04	203 5 4921 01270	Transistor, 2SD 1012				1
Q05	203 5 5000 53670	Transistor, 2SC 536				1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description				Q'ty
Q06	203 5 7230 60870	Transistor, 2SA 608				1

RESISTORS

Ref. No.	Part No.	Description				Q'ty
R01	RD2 2 1161 JH000	Carbon	220Ω	1/6W	±5%	1
R02	RD2 2 1161 JH000	Carbon	220Ω	1/6W	±5%	1
R03	RD2 2 4161 JH000	Carbon	220kΩ	1/6W	±5%	1
R04	RD2 2 4161 JH000	Carbon	220kΩ	1/6W	±5%	1
R05	RD5 6 2161 JH000	Carbon	5.6kΩ	1/6W	±5%	1
R06	RD5 6 2161 JH000	Carbon	5.6kΩ	1/6W	±5%	1
R07	RD5 6 3161 JH000	Carbon	56kΩ	1/6W	±5%	1
R08	RD5 6 3161 JH000	Carbon	56kΩ	1/6W	±5%	1
R09	RD4 7 1161 JH000	Carbon	470Ω	1/6W	±5%	1
R10	RD4 7 1161 JH000	Carbon	470Ω	1/6W	±5%	1
R11	RD1 0 3161 JH000	Carbon	10kΩ	1/6W	±5%	1
R12	RD1 0 3161 JH000	Carbon	10kΩ	1/6W	±5%	1
R13	RD1 0 4251 JM000	Carbon	100kΩ	1/4W	±5%	1
R14	RD4 7 3161 JH000	Carbon	47kΩ	1/6W	±5%	1
R15	RD4 7 3161 JH000	Carbon	47kΩ	1/6W	±5%	1
R16	RD4 7 3161 JH000	Carbon	47kΩ	1/6W	±5%	1

BALANCE VOLUME P.C.B. ASSY

Ref. No.	Part No.	Description	Q'ty
PCB6	141 0 1939 07450	Balance Volume P.C.B. Assy	1
	4 2262 20810	Balance Volume P.C.B.	1
	4 2229 75261	Slide VR 10kΩ-Wx1 (Balance)	1

PRE AMP. P.C.B. ASSY

Ref. No.	Part No.	Description	Q'ty
PCB7	141 0 1939 07460	Pre Amp. P.C.B. Assy	1
	4 2262 20820	Pre Amp. P.C.B.	1
S07	4 2319 77480	Switch Push 4 Key (Loudness, Mode, Subsonic, High Filter)	1
S08	4 2319 77500	Switch Push 1 Key (Tape 2)	1
CN03	4 2369 73130	Connector 3P	1
CN07	4 2369 73130	Connector 3P	1
J10	4 2359 77394	Connector 5P Assy	1

CAPACITORS

Ref. No.	Part No.	Description				Q'ty
C01	CC4 7 1500 KD00C	Ceramic	470pF	50V	±10%	1
C02	CC4 7 1500 KD00C	Ceramic	470pF	50V	±10%	1
C03	CM2 2 4500 J00TV	Mylar	0.22μF	50V	±5%	1
C04	CM2 2 4500 J00TV	Mylar	0.22μF	50V	±5%	1
C05	CM1 0 4500 J00TV	Mylar	0.1μF	50V	±5%	1
C06	CM1 0 4500 J00TV	Mylar	0.1μF	50V	±5%	1
C07	CM1 0 4500 J00TV	Mylar	0.1μF	50V	±5%	1
C08	CM1 0 4500 J00TV	Mylar	0.1μF	50V	±5%	1
C09	CD1 0 5500 0001V	Electrolytic	1μF	50V		1
C10	CD1 0 5500 0001V	Electrolytic	1μF	50V		1
C11	CD1 0 6160 0001V	Electrolytic	10μF	16V		1
C12	CD1 0 6160 0001V	Electrolytic	10μF	16V		1
C13	CC1 5 0500 KD00C	Ceramic	15pF	50V	±10%	1
C14	CC1 5 0500 KD00C	Ceramic	15pF	50V	±10%	1
C15	CC3 3 1500 KD00C	Ceramic	330pF	50V	±10%	1
C16	CC3 3 1500 KD00C	Ceramic	330pF	50V	±10%	1
C17	CM4 7 2500 K00SV	Mylar	0.0047μF	50V	±10%	1
C18	CM4 7 2500 K00SV	Mylar	0.0047μF	50V	±10%	1
C19	CM3 3 3500 K00SV	Mylar	0.033μF	50V	±10%	1
C20	CM3 3 3500 K00SV	Mylar	0.033μF	50V	±10%	1
C21	CD1 0 6160 0001V	Electrolytic	10μF	16V		1
C22	CD1 0 6160 0001V	Electrolytic	10μF	16V		1
C23	CD2 2 7250 0001V	Electrolytic	220μF	25V		1
C24	CD2 2 7250 0001V	Electrolytic	220μF	25V		1

SEMICONDUCTORS

Ref. No.	Part No.	Description	Q'ty
IC01	ITT - TA73 22P-	IC, TA 7322 P	1
IC02	ITT - TA73 22P-	IC, TA 7322 P	1

RESISTORS

Ref. No.	Part No.	Description				Q'ty
R01	RD3 3 2161 JH000	Carbon	3.3kΩ	1/6W	±5%	1
R02	RD3 3 2161 JH000	Carbon	3.3kΩ	1/6W	±5%	1
R03	RD4 7 1161 JH000	Carbon	470Ω	1/6W	±5%	1
R04	RD4 7 1161 JH000	Carbon	470Ω	1/6W	±5%	1
R05	RD1 5 4161 JH000	Carbon	150kΩ	1/6W	±5%	1
R06	RD1 5 4161 JH000	Carbon	150kΩ	1/6W	±5%	1
R07	RD5 6 3161 JH000	Carbon	56kΩ	1/6W	±5%	1
R08	RD5 6 3161 JH000	Carbon	56kΩ	1/6W	±5%	1
R09	RD6 8 2161 JH000	Carbon	6.8kΩ	1/6W	±5%	1
R10	RD6 8 2161 JH000	Carbon	6.8kΩ	1/6W	±5%	1
R11	RD5 6 3161 JH000	Carbon	56kΩ	1/6W	±5%	1
R12	RD5 6 3161 JH000	Carbon	56kΩ	1/6W	±5%	1
R13	RD3 3 1161 JH000	Carbon	330Ω	1/6W	±5%	1
R14	RD3 3 1161 JH000	Carbon	330Ω	1/6W	±5%	1
R15	RD8 2 1161 JH000	Carbon	820Ω	1/6W	±5%	1
R16	RD8 2 1161 JH000	Carbon	820Ω	1/6W	±5%	1
R17	RD8 2 3161 JH000	Carbon	82kΩ	1/6W	±5%	1
R18	RD8 2 3161 JH000	Carbon	82kΩ	1/6W	±5%	1
R19	RD1 0 4161 JH000	Carbon	100kΩ	1/6W	±5%	1
R20	RD1 0 4161 JH000	Carbon	100kΩ	1/6W	±5%	1
R21	RF1 5 1251 JK000	Fuse	150Ω	1/4W	±5%	1
R22	RF1 5 1251 JK000	Fuse	150Ω	1/4W	±5%	1

JACK P.C.B. ASSY

Ref. No.	Part No.	Description	Q'ty
PCB8	141 0 1939 07470	Jack P.C.B. Assy	1
	4 2262 20830	Jack P.C.B.	1
	4 2352 01650	Pin Jack 4P (Main In, Pre Out)	1
J11	4 2359 77693	Connector 2P Assy	1
J12	4 2359 77694	Connector 2P Assy	1

POWER LEVEL METER P.C.B. ASSY

Ref. No.	Part No.	Description	Q'ty
PCB9	141 0 1939 07480	Power Level Meter P.C.B. Assy	1
	4 2262 20840	Power Level Meter P.C.B.	1
	4 2149 70020	Digitron	1
	131 2 5205 32800	Cushion	1
J13	131 0 4006 31421	Cord Assy	1

CAPACITORS

Ref. No.	Part No.	Description			Q'ty
C01	CD1 0 6160 0001V	Electrolytic	10μF	16V	1
C02	CD1 0 6160 0001V	Electrolytic	10μF	16V	1
C03	CD2 2 6160 0001V	Electrolytic	22μF	16V	1
C04	CD2 2 6160 0001V	Electrolytic	22μF	16V	1

SEMICONDUCTORS

Ref. No.	Part No.	Description	Q'ty
D01	205 5 9040 44210	Diode, DS 442	1
D02	205 5 9040 44210	Diode, DS 442	1
IC01	4 2069 73700	IC, BA 6146	1
IC02	4 2069 73700	IC, BA 6146	1

RESISTORS

Ref. No.	Part No.	Description				Q'ty
R01	RD1 0 3251 JM000	Carbon	10kΩ	1/4W	±5%	1
R02	RD1 0 3161 JH000	Carbon	10kΩ	1/6W	±5%	1
R03	RD1 0 3161 JH000	Carbon	10kΩ	1/6W	±5%	1
R04	RD1 0 3161 JH000	Carbon	10kΩ	1/6W	±5%	1

P.C.BOARD PARTS LIST (Continued)

FUSE P.C.B. ASSY

Ref. No.	Part No.	Description	Q'ty
PCB10	141 0 1939 07491	Fuse P.C.B. Assy	1
	4 2262 20850	Fuse P.C.B.	1
⚠	4 2349 20380	Fuse T 1.0A	4
⚠	4 2349 21570	Fuse T 6.3A	2
	4 2352 00200	Fuse Holder	12
	111 2 6220 11100	Wire Wrap Terminal	22
	4 2372 00830	EC Terminal 1P	2
	131 2 7103 13418	Label	4
	131 2 7103 40302	Label	2

PARAMETRIC TONE P.C.B. ASSY

Ref. No.	Part No.	Description	Q'ty
PCB11	141 0 1939 07500	Parametric Tone P.C.B. Assy	1
	4 2262 20860	Parametric Tone P.C.B.	1
CN02	4 2369 73150	Connector 5P	1

CAPACITORS

Ref. No.	Part No.	Description				Q'ty
C01	CD1 0 7100 0001V	Electrolytic	100μF	10V		1
C02	CD1 0 7100 0001V	Electrolytic	100μF	10V		1
C03	CC1 0 1500 KD00R	Ceramic	100pF	50V	±10%	1
C04	CC1 0 1500 KD00R	Ceramic	100pF	50V	±10%	1
C05	CC1 0 1500 KD00C	Ceramic	100pF	50V	±10%	1
C06	CC1 0 1500 KD00C	Ceramic	100pF	50V	±10%	1
C07	CM4 7 2500 K00SV	Mylar	0.0047μF	50V	±10%	1
C08	CM4 7 2500 K00SV	Mylar	0.0047μF	50V	±10%	1
C09	CD1 0 5500 0001V	Electrolytic	1μF	50V		1
C10	CD1 0 5500 0001V	Electrolytic	1μF	50V		1
C11	CD1 0 7100 0001V	Electrolytic	100μF	10V		1
C12	CD1 0 7100 0001V	Electrolytic	100μF	10V		1
C13	CC1 0 1500 KD00R	Ceramic	100pF	50V	±10%	1
C14	CC1 0 1500 KD00R	Ceramic	100pF	50V	±10%	1
C15	CC1 0 1500 KD00R	Ceramic	100pF	50V	±10%	1
C16	CC1 0 1500 KD00R	Ceramic	100pF	50V	±10%	1
C17	CC1 8 1500 JD00R	Ceramic	180pF	50V	±5%	1
C18	CC1 8 1500 JD00R	Ceramic	180pF	50V	±5%	1
C19	CM4 7 3500 K00SV	Mylar	0.047μF	50V	±10%	1
C20	CM4 7 3500 K00SV	Mylar	0.047μF	50V	±10%	1
C21	CD1 0 7100 0001V	Electrolytic	100μF	10V		1
C22	CD1 0 7100 0001V	Electrolytic	100μF	10V		1
C23	CD2 2 7250 0001V	Electrolytic	220μF	25V		1
C24	CD2 2 7250 0001V	Electrolytic	220μF	25V		1

SEMICONDUCTORS

Ref. No.	Part No.	Description	Q'ty
IC01	IJJ - NJM4560DX	IC, NJM 4560 DX	1
IC02	IJJ - NJM4558DX	IC, NJM 4558 DX	1
IC03	IJJ - NJM4558DX	IC, NJM 4558 DX	1
IC04	IJJ - NJM4560DX	IC, NJM 4560 DX	1
IC05	IJJ - NJM4558DX	IC, NJM 4558 DX	1
IC06	IJJ - NJM4558DX	IC, NJM 4558 DX	1

RESISTORS

Ref. No.	Part No.	Description				Q'ty
R01	RD2 2 1251 JM000	Carbon	220Ω	1/4W	±5%	1
R02	RD2 2 1251 JM000	Carbon	220Ω	1/4W	±5%	1
R03	RD2 2 3251 JM000	Carbon	22kΩ	1/4W	±5%	1
R04	RD2 2 3251 JM000	Carbon	22kΩ	1/4W	±5%	1
R05	RD2 7 2251 JM000	Carbon	2.7kΩ	1/4W	±5%	1
R06	RD2 7 2251 JM000	Carbon	2.7kΩ	1/4W	±5%	1
R07	RD2 2 3251 JM000	Carbon	22kΩ	1/4W	±5%	1
R08	RD2 2 3251 JM000	Carbon	22kΩ	1/4W	±5%	1
R09	RD5 6 3251 JM000	Carbon	56kΩ	1/4W	±5%	1
R10	RD5 6 3251 JM000	Carbon	56kΩ	1/4W	±5%	1
R11	RD1 5 3251 JM000	Carbon	15kΩ	1/4W	±5%	1
R12	RD1 5 3251 JM000	Carbon	15kΩ	1/4W	±5%	1
R13	RD3 3 2251 JM000	Carbon	3.3kΩ	1/4W	±5%	1
R14	RD3 3 2251 JM000	Carbon	3.3kΩ	1/4W	±5%	1
R15	RD3 3 2251 JM000	Carbon	3.3kΩ	1/4W	±5%	1
R16	RD3 3 2251 JM000	Carbon	3.3kΩ	1/4W	±5%	1
R17	RD2 2 3251 JM000	Carbon	22kΩ	1/4W	±5%	1
R18	RD2 2 3251 JM000	Carbon	22kΩ	1/4W	±5%	1
R19	RD2 2 3251 JM000	Carbon	22kΩ	1/4W	±5%	1
R20	RD2 2 3251 JM000	Carbon	22kΩ	1/4W	±5%	1
R21	RD1 0 2251 JM000	Carbon	1kΩ	1/4W	±5%	1
R22	RD1 0 2251 JM000	Carbon	1kΩ	1/4W	±5%	1
R23	RD2 2 3251 JM000	Carbon	22kΩ	1/4W	±5%	1
R24	RD2 2 3251 JM000	Carbon	22kΩ	1/4W	±5%	1
R25	RD2 7 2251 JM000	Carbon	2.7kΩ	1/4W	±5%	1
R26	RD2 7 2251 JM000	Carbon	2.7kΩ	1/4W	±5%	1
R27	RD2 2 3251 JM000	Carbon	22kΩ	1/4W	±5%	1
R28	RD2 2 3251 JM000	Carbon	22kΩ	1/4W	±5%	1
R29	RD5 6 2251 JM000	Carbon	5.6kΩ	1/4W	±5%	1
R30	RD5 6 2251 JM000	Carbon	5.6kΩ	1/4W	±5%	1
R31	RD1 2 2251 JM000	Carbon	1.2kΩ	1/4W	±5%	1
R32	RD1 2 2251 JM000	Carbon	1.2kΩ	1/4W	±5%	1
R33	RD2 7 2251 JM000	Carbon	2.7kΩ	1/4W	±5%	1
R34	RD2 7 2251 JM000	Carbon	2.7kΩ	1/4W	±5%	1
R35	RD2 7 2251 JM000	Carbon	2.7kΩ	1/4W	±5%	1
R36	RD2 7 2251 JM000	Carbon	2.7kΩ	1/4W	±5%	1
R37	RD2 2 3251 JM000	Carbon	22kΩ	1/4W	±5%	1
R38	RD2 2 3251 JM000	Carbon	22kΩ	1/4W	±5%	1
R39	RD2 2 3251 JM000	Carbon	22kΩ	1/4W	±5%	1
R40	RD2 2 3251 JM000	Carbon	22kΩ	1/4W	±5%	1
R41	RD1 0 2251 JM000	Carbon	1kΩ	1/4W	±5%	1
R42	RD1 0 2251 JM000	Carbon	1kΩ	1/4W	±5%	1
R43	RD5 6 1251 JM000	Carbon	560Ω	1/4W	±5%	1
R44	RD5 6 1251 JM000	Carbon	560Ω	1/4W	±5%	1
R45	RD4 7 3251 JM000	Carbon	47kΩ	1/4W	±5%	1
R46	RD4 7 3251 JM000	Carbon	47kΩ	1/4W	±5%	1
R47	RF1 2 1251 JK000	Fuse	120Ω	1/4W	±5%	1
R48	RF1 2 1251 JK000	Fuse	120Ω	1/4W	±5%	1

PARAMETRIC EQ. VOLUME P.C.B. ASSY

Ref. No.	Part No.	Description	Q'ty
PCB12	141 0 1939 07510	Parametric EQ. Volume P.C.B. Assy	1
	4 2262 20870	Parametric EQ. Volume P.C.B.	1
	4 2229 75280	Slide VR 100kΩ-Ax4 (Low Band)	1
	4 2229 75280	Slide VR 100kΩ-Ax4 (High Band)	1
	4 2229 75290	Slide VR 50kΩ-Bx2 (EQ. Volume)	2

SWITCH P.C.B. ASSY

Ref. No.	Part No.	Description	Q'ty
PCB13	141 0 1939 07520	Switch P.C.B. Assy	1
	4 2262 20880	Switch P.C.B.	1
S09	4 2319 77490	Switch Push 4Key (Speakers Selector A/B, Parametric EQ Meter Range)	1
CN01	4 2362 00900	Plug 8P	1
J20	4 2359 77704	Connector 3P Assy	1

RESISTORS

Ref. No.	Part No.	Description				Q'ty
R01	RD1 0 2251 JM000	Carbon	1kΩ	1/4W	±5%	1
R02	RD1 0 2251 JM000	Carbon	1kΩ	1/4W	±5%	1

HEADPHONE JACK P.C.B. ASSY

Ref. No.	Part No.	Description	Q'ty
PCB14	141 0 1939 07530	Headphone Jack P.C.B. Assy	1
	4 2262 20890	Headphone Jack P.C.B.	1
	4 2359 76380	Jack 3P 6.43 (Headphones)	1

P.C.BOARD PARTS LIST (Continued)

POWER AMP. P.C.B. ASSY (LEFT)

Ref. No.	Part No.	Description	Q'ty
PCB15	141 0 1939 07540	Power Amp. P.C.B. Assy (Left)	1
	4 2262 20900	Power Amp. P.C.B. (Left)	1
	4 2369 73672	Plug 2P	1
	4 2369 74810	Plug 6P	1
	111 2 6220 11100	Wire Wrap Terminal	3
	131 2 3608 14100	Cramp Wire	1
	131 2 6201 21500	Plate Heat Sink	2
L01	4 2532 00180	RF Filter (3 μH)	1
VR01	4 2229 75300	Semi Fixed 200Ω (Center Voltage Adjust)	1
VR02	4 2229 75310	Semi Fixed 300Ω (Idling Current Adjust)	1

CAPACITORS

Ref. No.	Part No.	Description	Q'ty
C02	CC2 2 1500 KD00C	Ceramic 220pF 50V ±10%	1
C04	CC1 0 2500 KD00C	Ceramic 0.001μF 50V ±10%	1
C05	CD1 0 6250 0001V	Electrolytic 10μF 25V	1
C06	CD1 0 6250 0001V	Electrolytic 10μF 25V	1
C07	4 2239 72040	Ceramic 15pF 500V	1
C08	4 2239 72040	Ceramic 15pF 500V	1
C09A	CC8 0 A500 DD00C	Ceramic 8pF 50V ±0.5%	1
C09B	CC8 0 A500 DD00C	Ceramic 8pF 50V ±0.5%	1
C10	CD4 7 6101 0001V	Electrolytic 47μF 100V	1
C11	CD4 7 6101 0001V	Electrolytic 47μF 100V	1
C12	CD4 7 6100 0001V	Electrolytic 47μF 10V	1
C13	CC4 7 1500 KD00C	Ceramic 470pF 50V ±10%	1
C14	4 2239 72030	Ceramic 100pF 500V	1
C15	4 2239 72030	Ceramic 100pF 500V	1
C16	CM1 0 3500 K00SV	Mylar 0.01μF 50V ±10%	1
C17	CM1 0 3500 K00SV	Mylar 0.01μF 50V ±10%	1
C18	CM1 0 4500 J00TV	Mylar 0.1μF 50V ±5%	1
C19	4 2239 72060	Electrolytic 4.7μF 100V	1
C20	4 2239 72060	Electrolytic 4.7μF 100V	1
C21	CM1 0 4500 J00TV	Mylar 0.1μF 50V ±5%	1

SEMICONDUCTORS

Ref. No.	Part No.	Description	Q'ty
D01	202 5 2810 44210	Diode, DS 442	1
D02	202 5 2810 44210	Diode, DS 442	1
D03	202 5 2810 44210	Diode, DS 442	1
D04	202 5 2810 44210	Diode, DS 442	1
D05	202 5 2810 44210	Diode, DS 442	1
D06	202 5 2810 44210	Diode, DS 442	1
D07	202 5 2810 44210	Diode, DS 442	1
D08	202 5 2810 44210	Diode, DS 442	1
D09	DAA - STV- 3H-G	Diode, STV 3 H	1
DZ01	202 5 3210 22012	Zener Diode, GZA 22 Y	1
DZ02	202 5 3210 22012	Zener Diode, GZA 22 Y	1
DZ03	202 5 3210 05112	Zener Diode, GZA 5.1 Y	1
DZ04	202 5 3210 05112	Zener Diode, GZA 5.1 Y	1
DZ05	202 5 3200 03085	Zener Diode, GZA 3.0 Y	1
DZ06	202 5 3200 03085	Zener Diode, GZA 3.0 Y	1
DZ07	202 5 3200 02211	Zener Diode, GZA 2.2 X	1
Q01	4 2039 72040	FET, 2SK 389	1
Q02	203 5 5373 06760	Transistor, 2SC 3067	1
Q03	203 5 5361 24060	Transistor, 2SA 1240	1
Q04	203 5 7230 60860	Transistor, 2SA 608	1
Q05	203 5 6931 20985	Transistor, 2SA 1209	1
Q06	203 5 5251 57160	Transistor, 2SC 1571	1
Q07	203 5 5632 91185	Transistor, 2SC 2911	1
Q08	203 5 6931 20985	Transistor, 2SA 1209	1
Q09	203 5 5632 91185	Transistor, 2SC 2911	1
Q10	203 5 8122 34440	Transistor, 2SC 2344	1
Q11	203 5 8631 01140	Transistor, 2SA 1011	1
Q12	203 5 6830 43850	Transistor, 2SD 438	1
Q13	203 5 6840 56050	Transistor, 2SB 560	1

RESISTORS

Ref. No.	Part No.	Description	Q'ty
R01	RD1 0 2251 JM000	Carbon 1kΩ 1/4W ±5%	1
R02	RD4 7 3251 JM000	Carbon 47kΩ 1/4W ±5%	1
R03	RD1 5 3251 JM000	Carbon 15kΩ 1/4W ±5%	1
R04	RD1 5 3251 JM000	Carbon 15kΩ 1/4W ±5%	1
R05	RD1 5 3251 JM000	Carbon 15kΩ 1/4W ±5%	1
R06	RD2 7 3251 JM000	Carbon 27kΩ 1/4W ±5%	1
R07	RD3 9 2251 JM000	Carbon 3.9kΩ 1/4W ±5%	1
R08	RD3 9 2251 JM000	Carbon 3.9kΩ 1/4W ±5%	1
R09	RD1 0 3251 JM000	Carbon 10kΩ 1/4W ±5%	1
R10	RD2 2 0251 JM000	Carbon 22Ω 1/4W ±5%	1
R11	RD2 2 0251 JM000	Carbon 22Ω 1/4W ±5%	1
R12	RH6 8 2102 JZ000	Metal 6.8kΩ 1W ±5%	1
R13	RH6 8 2102 JZ000	Metal 6.8kΩ 1W ±5%	1
R14	RD3 3 1251 JM000	Carbon 330Ω 1/4W ±5%	1
R15	RD3 3 1251 JM000	Carbon 330Ω 1/4W ±5%	1
R16	RD3 3 3251 JM000	Carbon 33kΩ 1/4W ±5%	1
R17	RD3 3 3251 JM000	Carbon 33kΩ 1/4W ±5%	1
R18	RD1 0 2251 JM000	Carbon 1kΩ 1/4W ±5%	1
R19	RD3 3 3251 JM000	Carbon 33kΩ 1/4W ±5%	1
R20	RD4 7 1251 JM000	Carbon 470Ω 1/4W ±5%	1
R21	RF1 0 1501 JZ000	Fuse 100Ω 1/2W ±5%	1
R22	RF1 0 1501 JZ000	Fuse 100Ω 1/2W ±5%	1
R23	RD1 5 1251 JM000	Carbon 150Ω 1/4W ±5%	1
R24	RD1 5 1251 JM000	Carbon 150Ω 1/4W ±5%	1
R25	RD4 7 1251 JM000	Carbon 470Ω 1/4W ±5%	1
R26	RD6 8 1251 JM000	Carbon 680Ω 1/4W ±5%	1
R27	RD6 8 1251 JM000	Carbon 680Ω 1/4W ±5%	1
R28	RD2 2 1251 JM000	Carbon 220Ω 1/4W ±5%	1
R29	RD2 2 1251 JM000	Carbon 220Ω 1/4W ±5%	1
R30	RH8 2 2102 JZ000	Metal 8.2kΩ 1W ±5%	1
R31	RH3 3 1202 JZ000	Metal 330Ω 2W ±5%	1
R32	RF5 6 A251 JH000	Fuse 5.6Ω 1/4W ±5%	1
R33	RF5 6 A251 JH000	Fuse 5.6Ω 1/4W ±5%	1
R34	RF5 6 A251 JH000	Fuse 5.6Ω 1/4W ±5%	1
R35	RF5 6 A251 JH000	Fuse 5.6Ω 1/4W ±5%	1
R36	4 2219 71250	Cement 0.47Ωx2 ±5%	1
R37	4 2219 71250	Cement 0.47Ωx2 ±5%	1
R38	RD5 6 A251 JM000	Carbon 5.6Ω 1/4W ±5%	1
R39	RH1 0 0202 JZ000	Metal 10Ω 2W ±5%	1
R40	RD4 7 3251 JM000	Carbon 47kΩ 1/4W ±5%	1
R41	RD4 7 3251 JM000	Carbon 47kΩ 1/4W ±5%	1

POWER AMP. P.C.B. ASSY (RIGHT)

Ref. No.	Part No.	Description	Q'ty
PCB16	141 0 1939 07550	Power Amp. P.C.B. Assy (Right)	1
	4 2262 20910	Power Amp. P.C.B. (Right)	1
	4 2369 73672	Plug 2P	1
	4 2369 74810	Plug 6P	1
	111 2 6220 11100	Wire Wrap Terminal	3
	131 2 3608 14100	Cramp Wire	1
	131 2 6201 21500	Plate Heat Sink	2
L01	4 2532 00180	RF Filter (3 μH)	1
VR01	4 2229 75300	Semi Fixed 200Ω (Center Voltage Adjust)	1
VR02	4 2229 75310	Semi Fixed 300Ω (Idling Current Adjust)	1

CAPACITORS

Ref. No.	Part No.	Description	Q'ty
C02	CC2 2 1500 KD00C	Ceramic 220pF 50V ±10%	1
C04	CC1 0 2500 KD00C	Ceramic 0.001μF 50V ±10%	1
C05	CD1 0 6250 0001V	Electrolytic 10μF 25V	1
C06	CD1 0 6250 0001V	Electrolytic 10μF 25V	1
C07	4 2239 72040	Ceramic 15pF 500V	1
C08	4 2239 72040	Ceramic 15pF 500V	1
C09A	CC8 0 A500 DD00C	Ceramic 8pF 50V ±0.5%	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description				Q'ty
C09B	CC8 0 A500 DD00C	Ceramic	8pF	50V	±0.5%	1
C10	CD4 7 6101 0001V	Electrolytic	47μF	100V		1
C11	CD4 7 6101 0001V	Electrolytic	47μF	100V		1
C12	CD4 7 6100 0001V	Electrolytic	47μF	10V		1
C13	CC4 7 1500 KD00C	Ceramic	470pF	50V	±10%	1
C14	4 2239 72030	Ceramic	100pF	500V		1
C15	4 2239 72030	Ceramic	100pF	500V		1
C16	CM1 0 3500 K00SV	Mylar	0.01μF	50V	±10%	1
C17	CM1 0 3500 K00SV	Mylar	0.01μF	50V	±10%	1
C18	CM1 0 4500 J00TV	Mylar	0.1μF	50V	±5%	1
C19	4 2239 72060	Electrolytic	4.7μF	100V		1
C20	4 2239 72060	Electrolytic	4.7μF	100V		1
C21	CM1 0 4500 J00TV	Mylar	0.1μF	50V	±5%	1

SEMICONDUCTORS

Ref. No.	Part No.	Description	Q'ty
D01	202 5 2810 44210	Diode, DS 442	1
D02	202 5 2810 44210	Diode, DS 442	1
D03	202 5 2810 44210	Diode, DS 442	1
D04	202 5 2810 44210	Diode, DS 442	1
D05	202 5 2810 44210	Diode, DS 442	1
D06	202 5 2810 44210	Diode, DS 442	1
D07	202 5 2810 44210	Diode, DS 442	1
D08	202 5 2810 44210	Diode, DS 442	1
D09	DAA - STV- 3H–G	Diode, STV 3 H	1
DZ01	202 5 3210 22012	Zener Diode, GZA 22 Y	1
DZ02	202 5 3210 22012	Zener Diode, GZA 22 Y	1
DZ03	202 5 3210 05112	Zener Diode, GZA 5.1 Y	1
DZ04	202 5 3210 05112	Zener Diode, GZA 5.1 Y	1
DZ05	202 5 3200 03085	Zener Diode, GZA 3.0 Y	1
DZ06	202 5 3200 03085	Zener Diode, GZA 3.0 Y	1
DZ07	202 5 3200 02211	Zener Diode, GZA 2.2 X	1
Q01	4 2039 72040	FET, 2SK 389	1
Q02	203 5 5373 06760	Transistor, 2SC 3067	1
Q03	203 5 5361 24060	Transistor, 2SA 1240	1
Q04	203 5 7230 60860	Transistor, 2SA 608	1
Q05	203 5 6931 20985	Transistor, 2SA 1209	1
Q06	203 5 5251 57160	Transistor, 2SC 1571	1
Q07	203 5 5632 91185	Transistor, 2SC 2911	1
Q08	203 5 6931 20985	Transistor, 2SA 1209	1
Q09	203 5 5632 91185	Transistor, 2SC 2911	1
Q10	203 5 8122 34440	Transistor, 2SC 2344	1
Q11	203 5 8631 01140	Transistor, 2SA 1011	1
Q12	203 5 6830 43850	Transistor, 2SD 438	1
Q13	203 5 6840 56050	Transistor, 2SB 560	1

RESISTORS

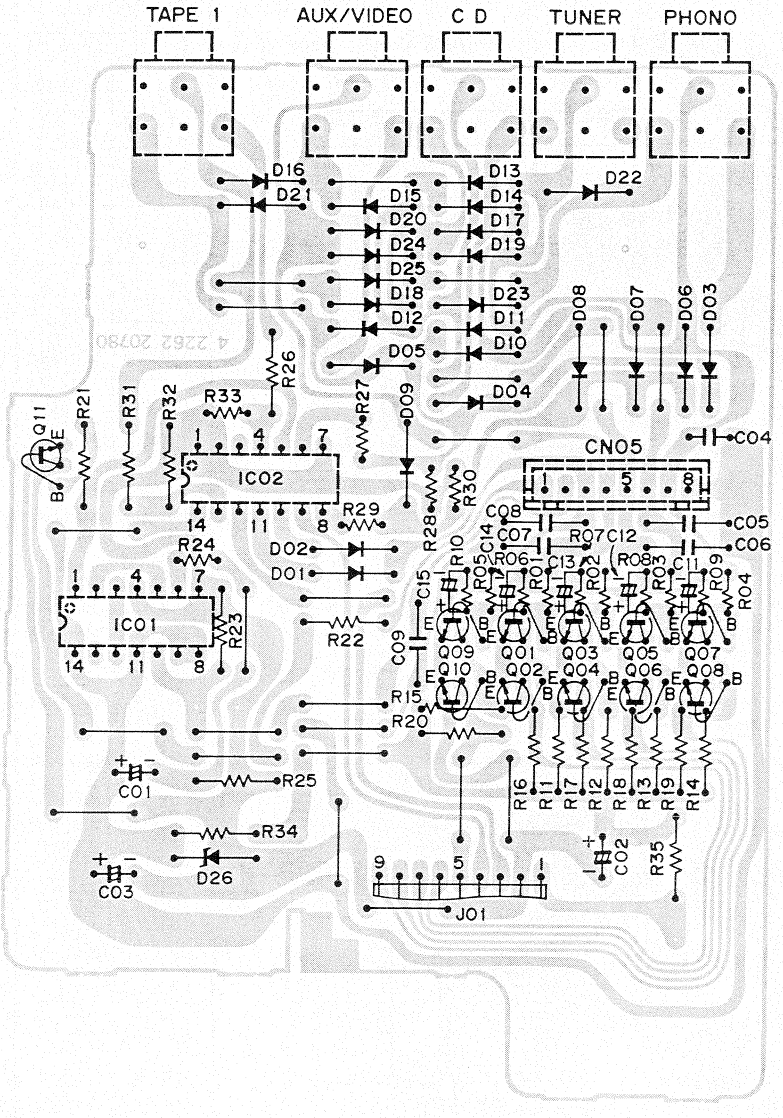
Ref. No.	Part No.	Description				Q'ty
R01	RD1 0 2251 JM000	Carbon	1kΩ	1/4W	±5%	1
R02	RD4 7 3251 JM000	Carbon	47kΩ	1/4W	±5%	1
R03	RD1 5 3251 JM000	Carbon	15kΩ	1/4W	±5%	1
R04	RD1 5 3251 JM000	Carbon	15kΩ	1/4W	±5%	1
R05	RD1 5 3251 JM000	Carbon	15kΩ	1/4W	±5%	1
R06	RD2 7 3251 JM000	Carbon	27kΩ	1/4W	±5%	1
R07	RD3 9 2251 JM000	Carbon	3.9kΩ	1/4W	±5%	1
R08	RD3 9 2251 JM000	Carbon	3.9kΩ	1/4W	±5%	1
R09	RD1 0 3251 JM000	Carbon	10kΩ	1/4W	±5%	1
R10	RD2 2 0251 JM000	Carbon	22Ω	1/4W	±5%	1
R11	RD2 2 0251 JM000	Carbon	22Ω	1/4W	±5%	1
R12	RH6 8 2102 JZ000	Metal	6.8kΩ	1W	±5%	1
R13	RH6 8 2102 JZ000	Metal	6.8kΩ	1W	±5%	1
R14	RD3 3 1251 JM000	Carbon	330Ω	1/4W	±5%	1
R15	RD3 3 1251 JM000	Carbon	330Ω	1/4W	±5%	1
R16	RD3 3 3251 JM000	Carbon	33kΩ	1/4W	±5%	1
R17	RD3 3 3251 JM000	Carbon	33kΩ	1/4W	±5%	1
R18	RD1 0 2251 JM000	Carbon	1kΩ	1/4W	±5%	1
R19	RD3 3 3251 JM000	Carbon	33kΩ	1/4W	±5%	1
R20	RD4 7 1251 JM000	Carbon	470Ω	1/4W	±5%	1
R21	RF1 0 1501 JZ000	Fuse	100Ω	1/2W	±5%	1
R22	RF1 0 1501 JZ000	Fuse	100Ω	1/2W	±5%	1
R23	RD1 5 1251 JM000	Carbon	150Ω	1/4W	±5%	1
R24	RD1 5 1251 JM000	Carbon	150Ω	1/4W	±5%	1
R25	RD4 7 1251 JM000	Carbon	470Ω	1/4W	±5%	1
R26	RD6 8 1251 JM000	Carbon	680Ω	1/4W	±5%	1
R27	RD6 8 1251 JM000	Carbon	680Ω	1/4W	±5%	1
R28	RD2 2 1251 JM000	Carbon	220Ω	1/4W	±5%	1
R29	RD2 2 1251 JM000	Carbon	220Ω	1/4W	±5%	1
R30	RH8 2 2102 JZ000	Metal	8.2kΩ	1W	±5%	1
R31	RH3 3 1202 JZ000	Metal	330Ω	2W	±5%	1
R32	RF5 6 A251 JH000	Fuse	5.6Ω	1/4W	±5%	1
R33	RF5 6 A251 JH000	Fuse	5.6Ω	1/4W	±5%	1
R34	RF5 6 A251 JH000	Fuse	5.6Ω	1/4W	±5%	1
R35	RF5 6 A251 JH000	Fuse	5.6Ω	1/4W	±5%	1
R36	4 2219 71250	Cement	0.47Ωx2		±5%	1
R37	4 2219 71250	Cement	0.47Ωx2		±5%	1
R38	RD5 6 A251 JM000	Carbon	5.6Ω	1/4W	±5%	1
R39	RH1 0 0202 JZ000	Metal	10Ω	2W	±5%	1
R40	RD4 7 3251 JM000	Carbon	47kΩ	1/4W	±5%	1
R41	RD4 7 3251 JM000	Carbon	47kΩ	1/4W	±5%	1

NOTES:

1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

AUTO FUNCTION P.C.BOARD

(BOTTOM VIEW)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C01
R25
R34
C03
D26
J01
C02
R35
4 2262 20780

TRANSISTOR DC VOLTAGES

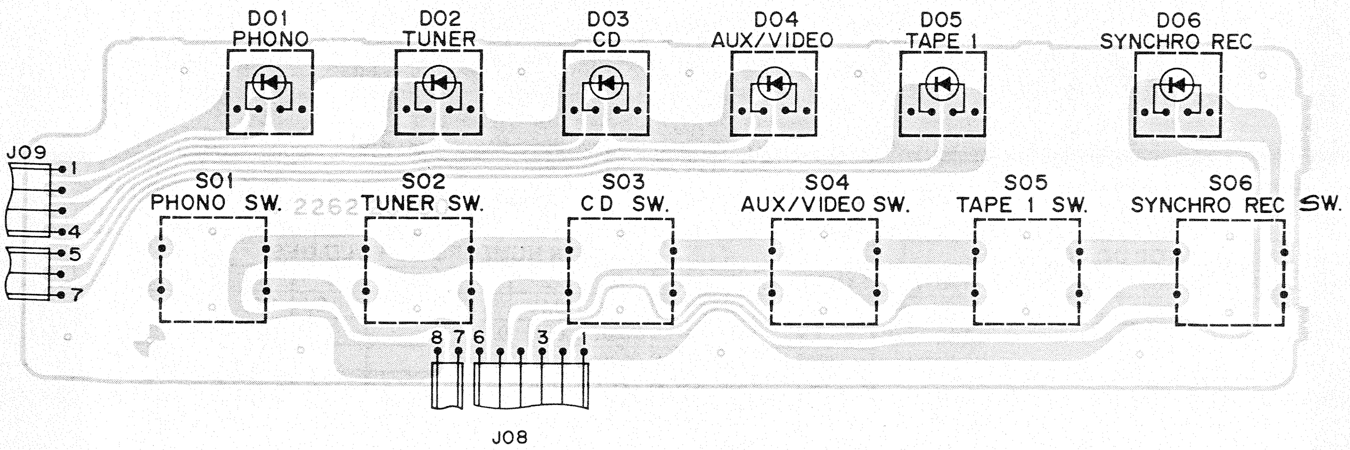
SYMBOL No.	DEVICE	B	C	E
Q01	2SC 536	0V	0.7V	0V
Q02	2SC 536	0.7V	0V	0V
Q03	2SC 536	0V	0.7V	0V
Q04	2SC 536	0.7V	0V	0V
Q05	2SC 536	0V	0.7V	0V
Q06	2SC 536	0.7V	0V	0V
Q07	2SC 536	0.6V	0.7V	0V
Q08	2SC 536	0.7V	0V	0V
Q09	2SC 536	0.2V	0.7V	0V
Q10	2SC 536	0.7V	0V	0V
Q11	2SC 536	0.7V	0V	0V

IC PIN NUMBERS DC VOLTAGES

SYMBOL No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14
IC01	LC 4013 B	10.1V	0V	0V	0V	0V	0V	0V	10.3V	10.3V	0V	10.3V	0V	10.3V	10.3V
IC02	LC 4081 B	0V	0V	0V	0V	10.1V	0V	0V	0V	8.9V	0V	0V	−0.5V	0V	10.3V

LED IND. / TOUCH SWITCH P.C.BOARD

(BOTTOM VIEW)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5
7
S01
PHONO SW.
S02
TUNER SW.
S03
C D SW.
S04
AUX/VIDEO SW.
S05
TAPE 1 SW.
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7
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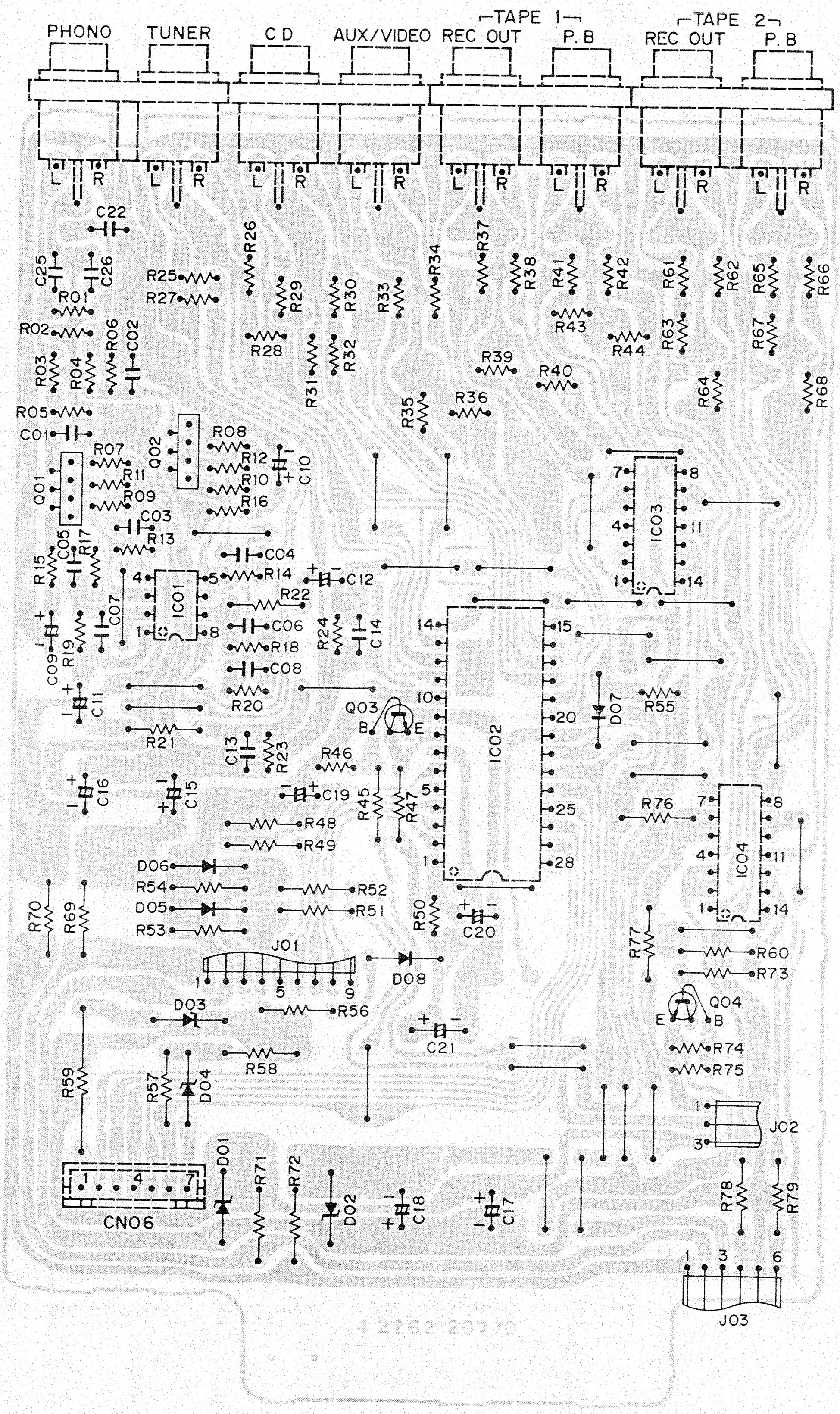
J08
2262

EQ, FUNCTION P.C.BOARD

(BOTTOM VIEW)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R02
R03
R04
R05
R06
C01
C02
R25
R27
R26
R28
R29
R30
R31
R32
R33
R34
R35
R36
R37
R38
R39
R40
R41
R42
R43
R44
R61
R62
R63
R64
R65
R66
R67
R68
Q01
Q02
R07
R08
R09
R10
R11
R12
R16
C10
C03
R13
C04
C05
R15
R17
R14
C12
IC01
R22
C06
R18
R24
C14
C07
C09
R19
C08
C11
R20
R21
C13
R23
Q03
B
E
IC02
R46
C19
R45
R47
R48
R49
C16
C15
D06
R54
D05
R53
R52
R51
R50
C20
R70
R69
J01
D08
D03
R56
C21
R58
R59
R57
D04
D01
R71
R72
D02
C18
C17
CN06
IC03
D07
R55
R76
IC04
R77
R60
R73
Q04
R74
R75
J02
R78
R79
J03
4 2262 20770

IC PIN NUMBERS DC VOLTAGES

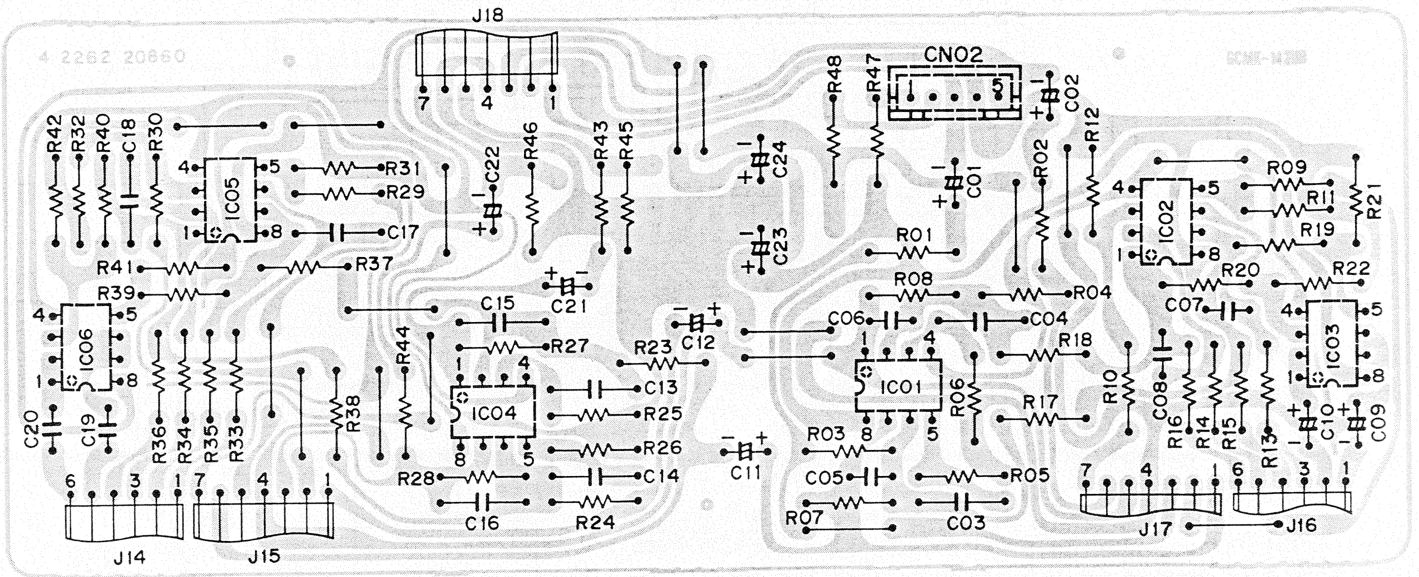
SYMBOL No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
IC01	NJM 4560	0V	12.4V	12.4V	−22.8V	12.4V	12.4V	0V	21.8V												
IC02	LC 7817	19.2V	0V	0V	0V	0V	0V	19.6V	19.6V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	−20.7V
		21	22	23	24	25	26	27	28												
		0V	19.7V	−20.5V	−20.3V	0.1V	0.1V	0.1V	19.7V												
IC03	LC 4966	0V	0V	0V	0V	18.1V	18.1V	−20.7V	0V	0V	0V	0V	−20.5V	−20.5V	20V						
IC04	LC 4966	0V	0V	0V	0V	17.7V	17.7V	−20.7V	0V	0V	−0.8V	−4.9V	−19.8V	−23.6V	20V						

TRANSISTOR DC VOLTAGES

SYMBOL No.	DEVICE	B	C	E
Q01,02	2SK 389	0V	12.1V	0.2V
Q03	2SC 536	0V	19.2V	0V
Q04	2SC 536	−20V	−20.7V	−20V

PARAMETRIC TONE P.C.BOARD

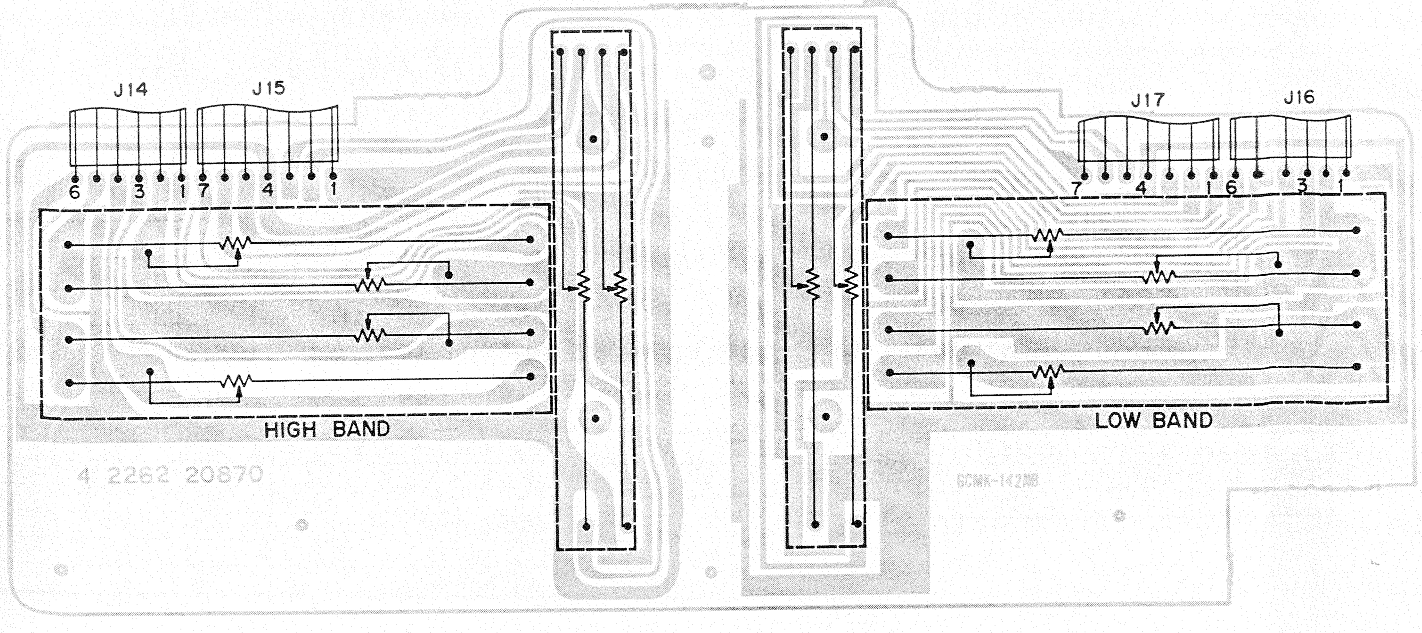
(BOTTOM VIEW)


J18
4 2262 20860
GCMK-142MB
CN02
R42
R32
R40
C18
R30
R46
R43
R45
R48
R47
C02
R12
R02
R31
R29
R17
C17
C22
C24
C01
C23
IC05
IC02
R09
R11
R19
R21
R01
R20
R22
R41
R37
R39
R08
R04
C15
C21
C12
C06
C04
C07
IC06
IC03
R27
R23
R18
R44
IC04
IC01
R06
R10
C08
R16
R14
R15
R13
C10
C09
C13
R25
R38
R36
R34
R35
R33
C20
C19
R26
R03
R28
C14
C11
C05
R05
R07
C16
R24
C03
J14
J15
J17
J16

SYMBOL No.	DEVICE	IC PIN NUMBERS DC VOLTAGES 1	2	3	4	5	6	7	8
IC01	NJM 4560 DX	0V	0V	0V	−21.3V	0V	0V	0V	20.2V
IC02	NJM 4558 DX	0V	0V	0V	−21.3V	0V	0V	0V	20.2V
IC03	NJM 4558 DX	0V	0V	0V	−21.3V	0V	0V	0V	20.2V
IC04	NJM 4560 DX	0V	0V	0V	−21.3V	0V	0V	0V	20.2V
IC05	NJM 4558 DX	0V	0V	0V	−21.3V	0V	0V	0V	20.2V
IC06	NJM 4558 DX	0V	0V	0V	−21.3V	0V	0V	0V	20.2V

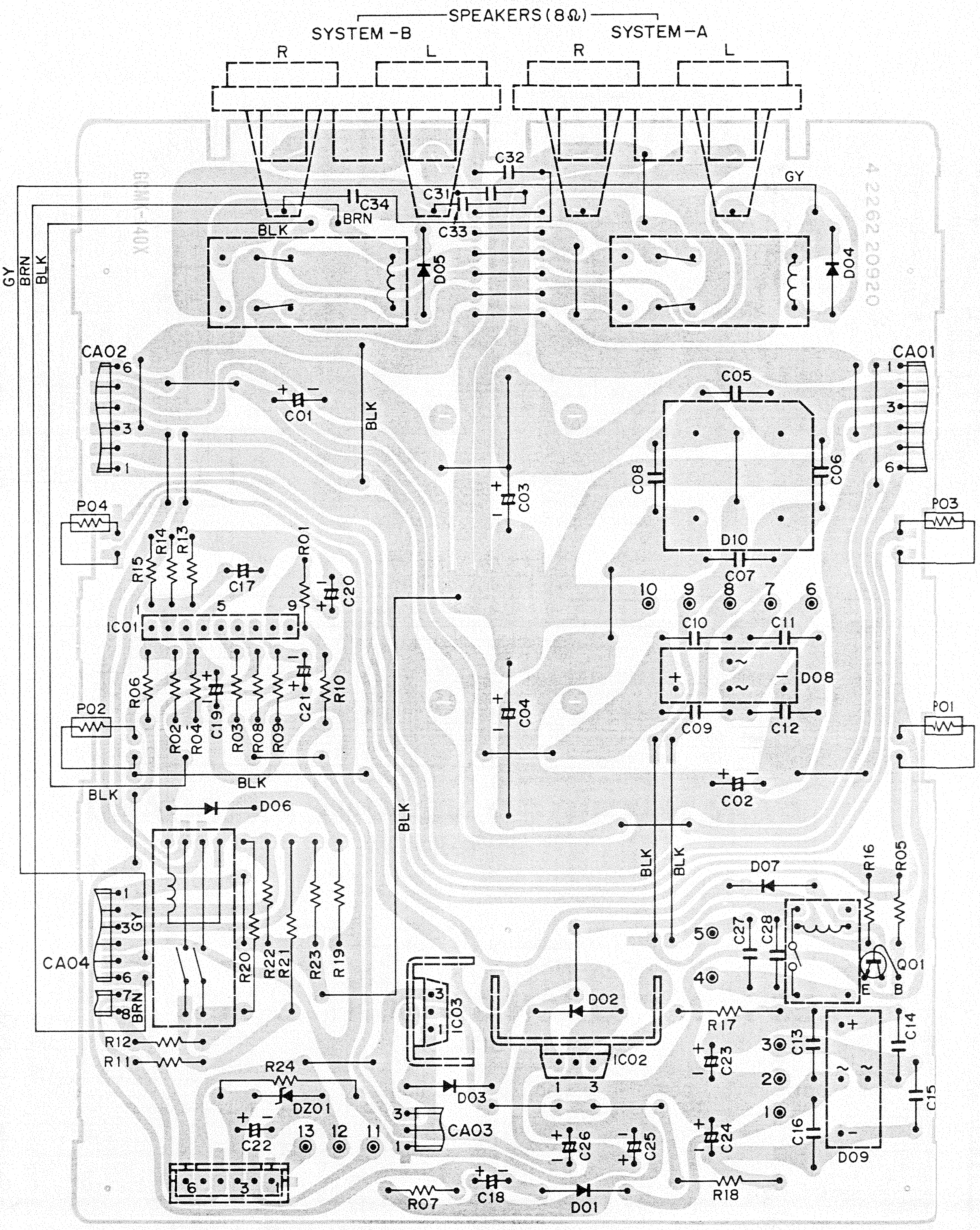
PARAMETRIC EQ. VOLUME P.C.BOARD

(BOTTOM VIEW)


J14
J15
J17
J16
HIGH BAND
LOW BAND
4 2262 20870
GCMK-142MB

POWER SUPPLY PROTECT P.C.BOARD

(BOTTOM VIEW)

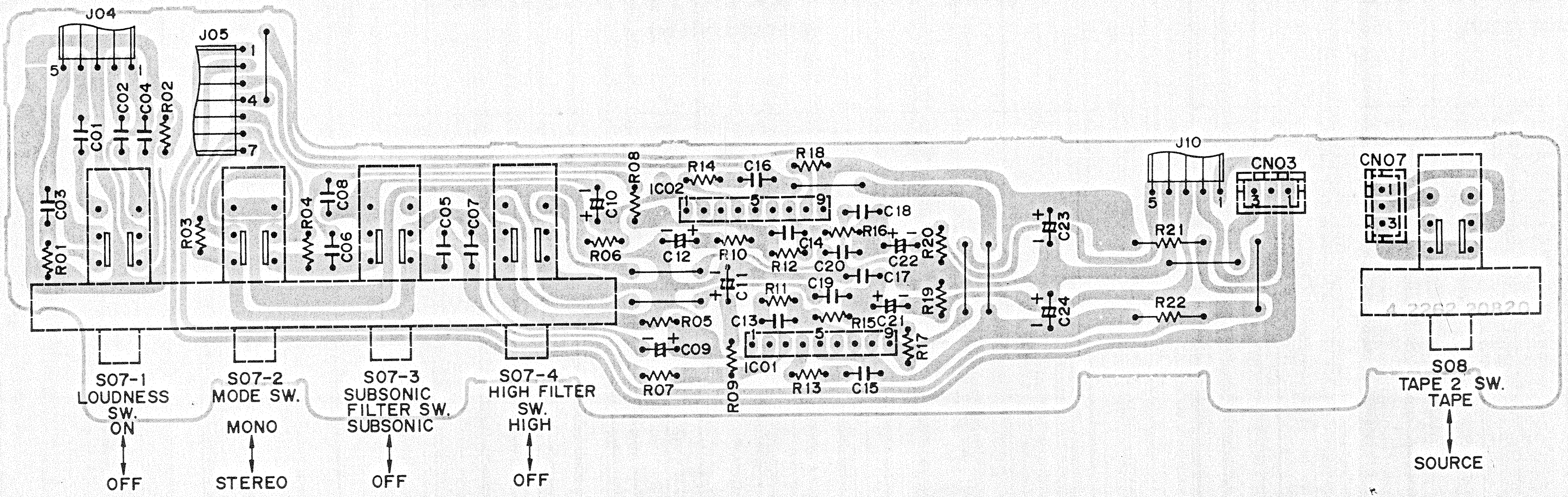

SPEAKERS (8Ω)
SYSTEM-B
SYSTEM-A
R
L
R
L
C32
C34
C31
C33
BRN
BLK
GY
D05
D04
GY
BRN
BLK
CA02
CA01
C05
C01
BLK
C03
C08
C06
D10
C07
P04
P03
R15
R14
R13
C17
R01
C20
IC01
10
9
8
7
6
C10
C11
D08
R06
C19
C21
R10
P02
P01
R02
R04
R03
R08
R09
C04
C09
C12
BLK
BLK
D06
C02
BLK
BLK
BLK
D07
R16
R05
CA04
R20
R22
R21
R23
R19
IC03
C27
C28
Q01
E
B
D02
R17
C14
R12
R11
IC02
C23
C13
R24
D03
C15
DZ01
CA03
C22
13
12
11
C26
C25
C24
C16
D09
R07
C18
D01
R18

TRANSISTOR DC VOLTAGES				
SYMBOL No.	DEVICE	B	C	E
Q01	2SC 2274	0.2V	23.5V	0V

IC PIN NUMBERS DC VOLTAGES										
SYMBOL No.	DEVICE	1	2	3	4	5	6	7	8	9
IC01	TA 9317 P	0.7V	0.1V	0.1V	0V	−0.8V	1.2V	0.2V	1.3V	3.0V
		INPUT	COM	OUTPUT						
IC02	NJM 78 M24	31.2V	0V	23.9V						
IC03	NJM 78 M24	−33.3V	0V	−24.9V						

PRE AMP. P.C.BOARD

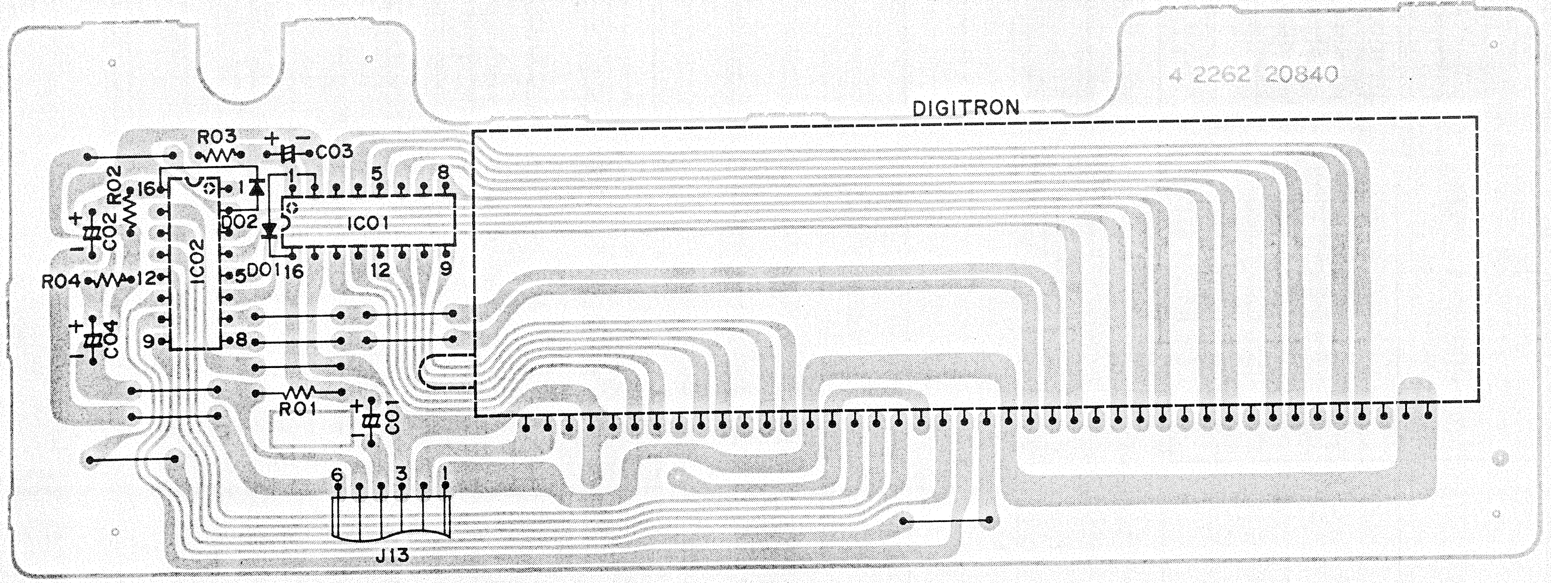
(BOTTOM VIEW)


J04
J05
R01
C03
C01
C02
C04
R02
R03
R04
C08
C06
C05
C07
C10
R08
R06
IC02
R14
C16
R18
C18
C12
R10
R12
C14
R16
C20
C22
R20
C11
R11
C19
C17
R19
R05
C13
R15
C21
R17
C09
IC01
R07
R09
R13
C15
C23
C24
J10
CN03
R21
R22
CN07
S07-1
LOUDNESS
SW.
ON
OFF
S07-2
MODE SW.
MONO
STEREO
S07-3
SUBSONIC
FILTER SW.
SUBSONIC
OFF
S07-4
HIGH FILTER
SW.
HIGH
OFF
S08
TAPE 2 SW.
TAPE
SOURCE

IC PIN NUMBERS DC VOLTAGES										
SYMBOL No.	DEVICE	1	2	3	4	5	6	7	8	9
IC01,02	TA 7322 P	0.7V	0.2V	0.2V	−21.5V	−22.8V	0.2V	0.1V	−17V	21.7V

POWER LEVEL METER P.C.BOARD

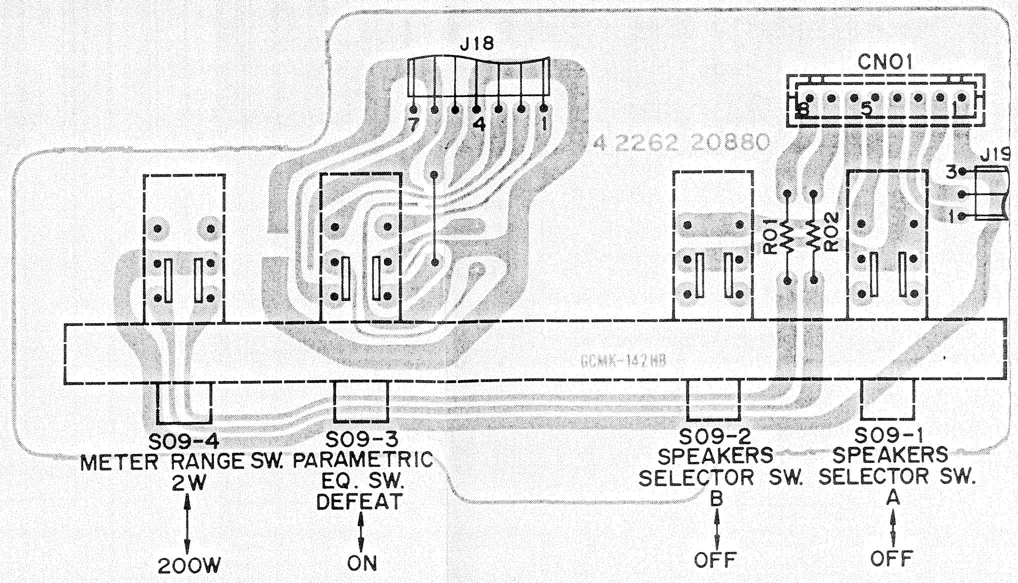
(BOTTOM VIEW)


4 2262 20840
DIGITRON
R03
C03
R02
C02
R04
C04
IC02
IC01
D02
D01
R01
C01
J13
16
1
12
5
9
8
6
3

IC PIN NUMBERS DC VOLTAGES																	
SYMBOL No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IC01	BA 6146	0V	0V	−0.1V	−0.1V	−0.1V	0V	0.1V	0.2V	0.3V	0.2V	−0.1V	−0.1V	0V	−0.2V	15.1V	0V
IC02	BA 6146	0V	0V	−0.2V	−0.2V	−0.2V	−0.1V	−0.1V	0V	0V	0V	−0.1V	−0.1V	−0.2V	−0.1V	15.1V	0V

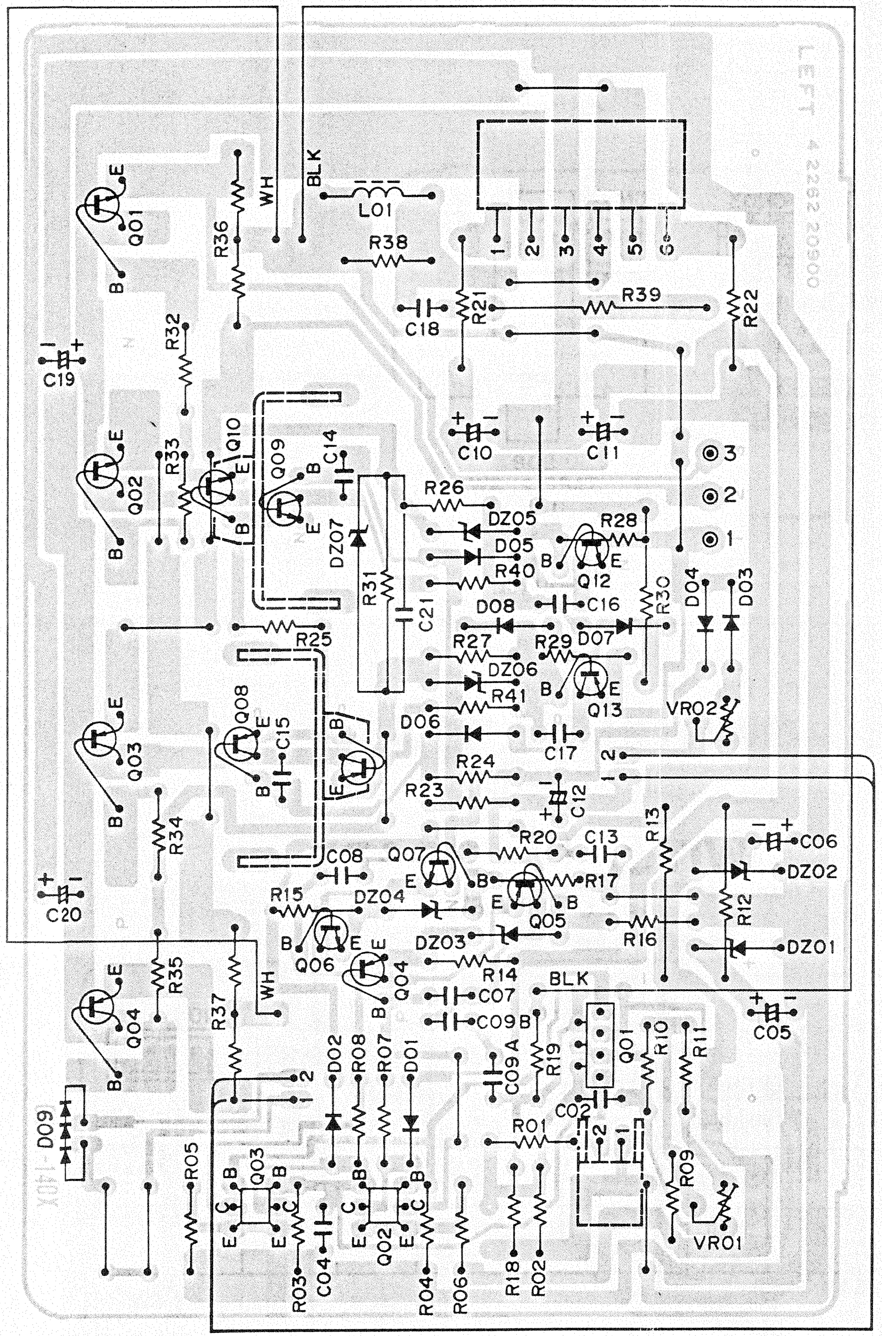
SWITCH P.C.BOARD

(BOTTOM VIEW)


J18
CN01
J19
4 2262 20880
R01
R02
S09-4
METER RANGE SW.
2W
200W
S09-3
PARAMETRIC
EQ. SW.
DEFEAT
ON
S09-2
SPEAKERS
SELECTOR SW.
B
OFF
S09-1
SPEAKERS
SELECTOR SW.
A
OFF

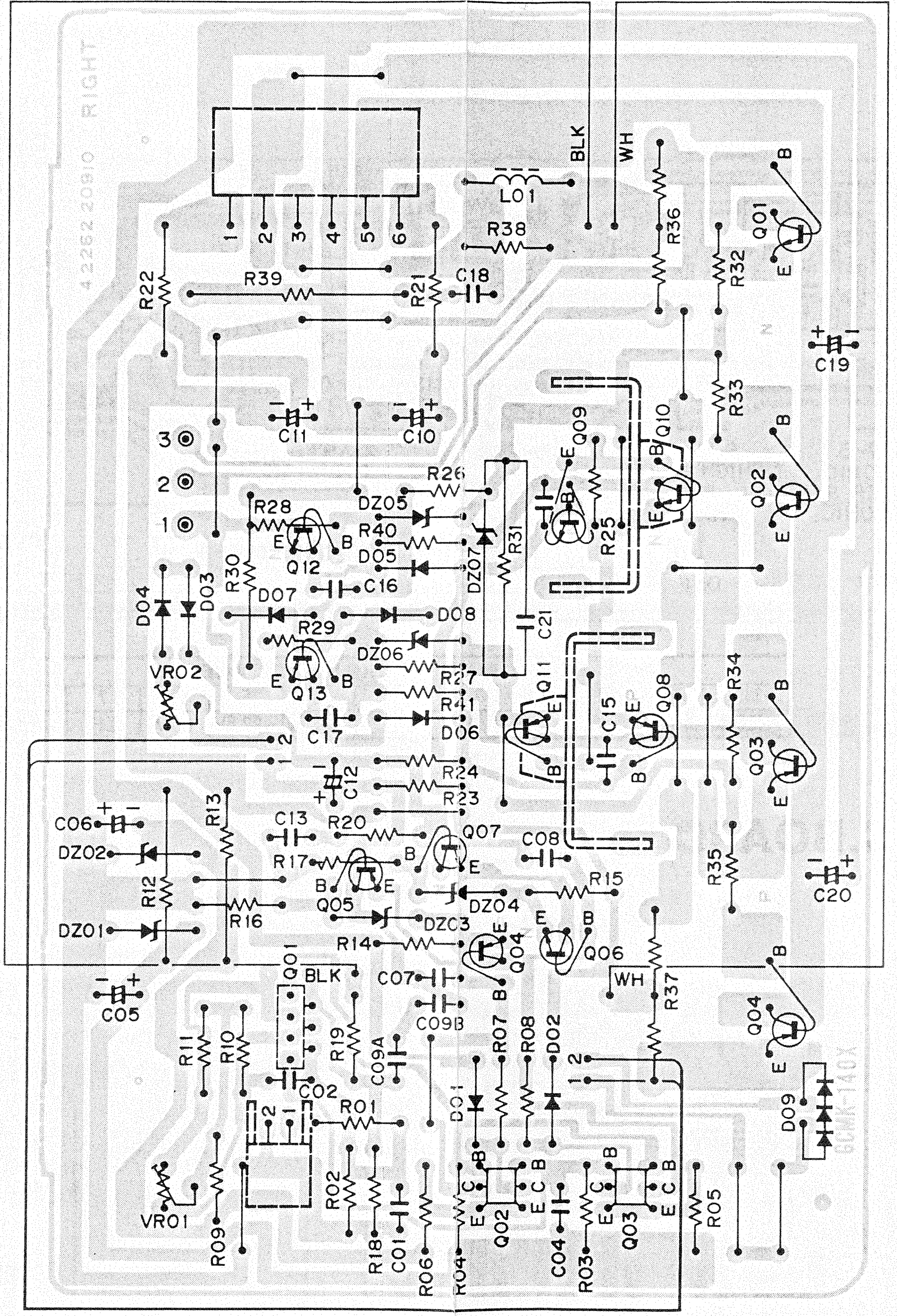
POWER AMP. (LEFT) P.C.BOARD

(BOTTOM VIEW)


LEFT
4 2262 20900
Q01
Q02
Q03
Q04
Q05
Q06
Q07
Q08
Q09
Q10
Q12
Q13
R36
WH
BLK
L01
R38
R39
R21
R22
C18
C19
R32
R33
C10
C11
C14
R26
DZ05
D05
R28
R40
DZ07
R31
C21
D08
C16
R30
D04
D03
R27
R29
D07
DZ06
R41
VR02
R25
D06
C15
R24
C17
C12
R23
C08
C13
R20
R13
C06
DZ02
R15
DZ04
R17
R12
R16
DZ01
DZ03
R14
C07
C09B
C05
R34
C20
R35
R37
D09
D02
R08
R07
D01
C09A
R19
R10
R11
C02
R01
R05
R09
VR01
R03
C04
R04
R06
R18
R02
140X

POWER AMP. (RIGHT) P.C.BOARD

(BOTTOM VIEW)

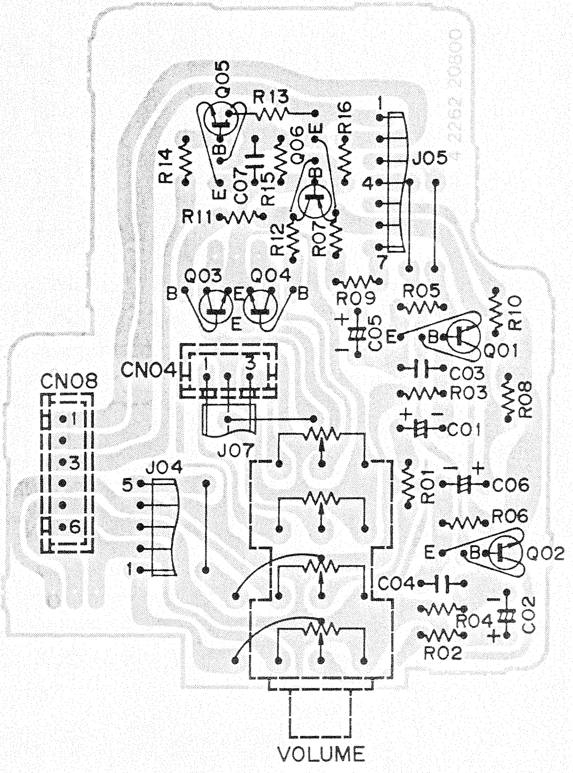

RIGHT
42262 20910
Q01
Q02
Q03
Q04
Q05
Q06
Q07
Q08
Q09
Q10
Q11
Q12
Q13
L01
R38
R39
R21
R22
C18
C19
WH
BLK
R36
R32
R33
C10
C11
R26
R28
DZ05
R40
D05
DZ07
R31
R25
D07
C16
D08
R29
DZ06
R27
R41
D06
C17
C12
R24
R23
C15
C21
R34
C13
R20
C08
C06
DZ02
R17
R15
R12
R16
DZ04
DZ01
DZ03
R14
C07
C09B
C05
R35
C20
R37
D09
R11
R10
R19
C09A
C02
R01
D01
R07
R08
D02
VR01
R09
R02
R18
C01
R06
R04
C04
R03
R05
GDMR-140X

TRANSISTOR DC VOLTAGES				
SYMBOL No.	DEVICE	B	C	E
Q01	2SC 3281	0.6V	67.8V	0V
Q02	2SC 3281	0.6V	67.8V	0V
Q03	2SA 1302	−0.6V	−67.8V	0V
Q04	2SA 1302	−0.6V	−67.8V	0V

TRANSISTOR DC VOLTAGES														
SYMBOL No.	DEVICE	B	C	E	SYMBOL No.	DEVICE	B	C	E	SYMBOL No.	DEVICE	B	C	E
Q01	2SK 389	0V	5.0V	0.5V	Q06	2SC 1571	−73V	−69.7V	−74V	Q11	2SA 1011	−1.1V	−68.3V	−0.6V
Q02	2SC 3067	5.0V	74.5V	4.4V	Q07	2SC 2911	−70.7V	−0.2V	−69.8V	Q12	2SD 438	0.4V	0.3V	0V
Q03	2SA 1240	5.0V	−75V	5.6V	Q08	2SA 1209	−1.1V	−68.6V	−1.7V	Q13	2SB 560	−0.4V	−1.4V	0V
Q04	2SA 608	73.4V	69.8V	74V	Q09	2SC 2911	1.1V	68V	1.6V					
Q05	2SA 1209	69.5V	1.7V	69V	Q10	2SC 2344	1.1V	68V	0.6V					

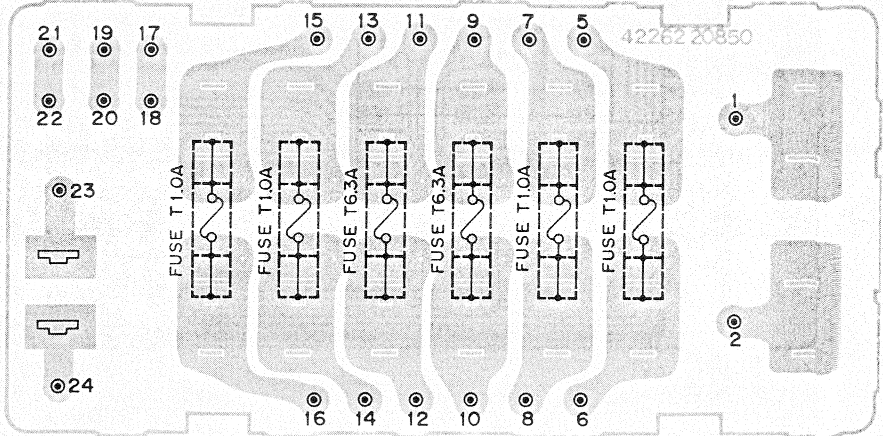
VOLUME P.C.BOARD

(BOTTOM VIEW)

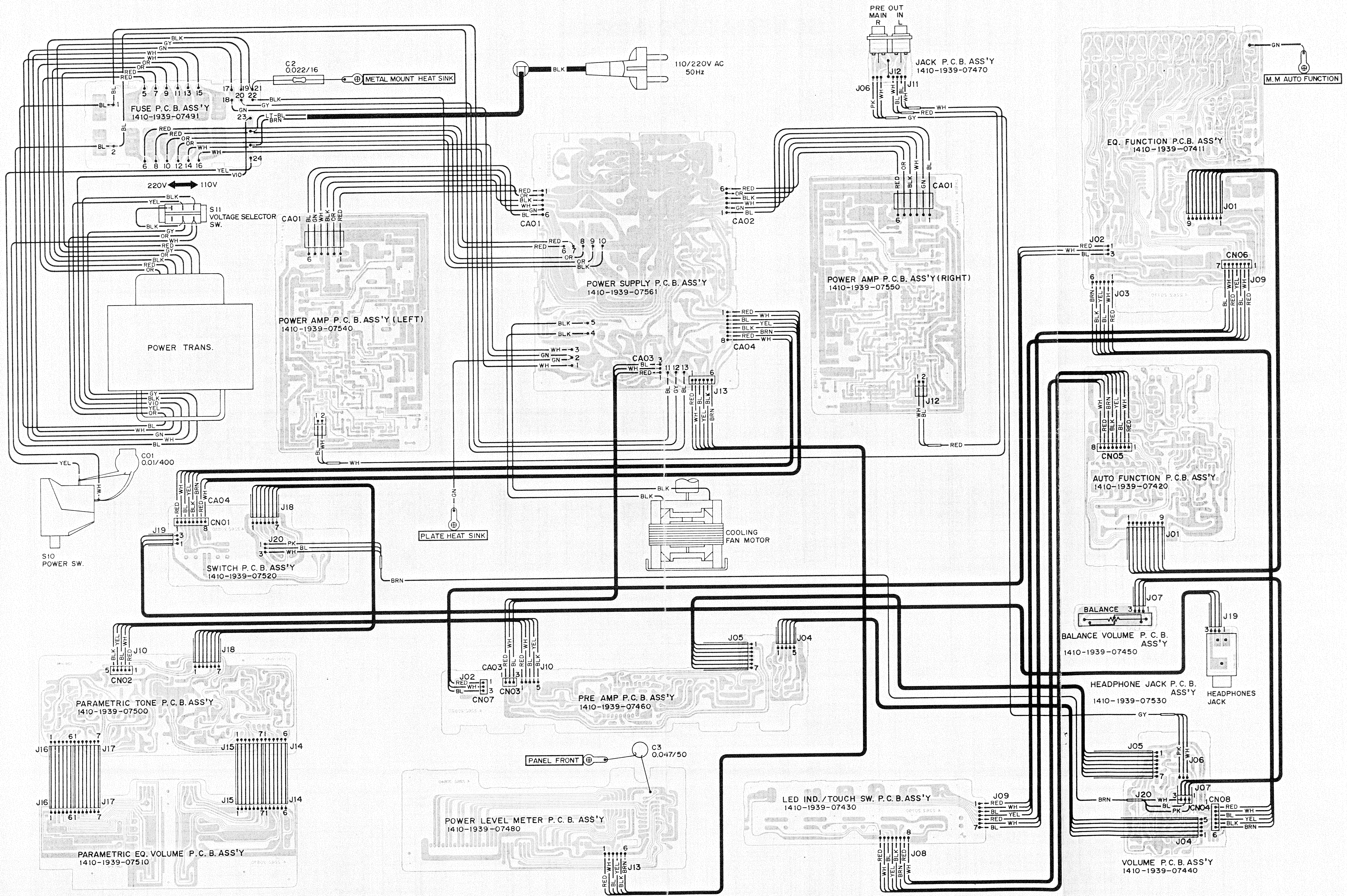

2262 20800
Q05
R13
R16
R14
C07
R15
Q06
R11
R12
Q07
J05
Q03
Q04
R09
R05
R10
C05
Q01
CN08
CN04
C03
R03
R08
C01
J07
J04
R01
C06
R06
Q02
C04
C02
R04
R02
VOLUME

TRANSISTOR DC VOLTAGES				
SYMBOL No.	DEVICE	B	C	E
Q01,02	2SC 2240	−3.0V	21.7V	−3.6V
Q03,04	2SD 1012	−7.8V	0V	0V
Q05	2SC 536	0V	0V	0V
Q06	2SA 608	23.5V	−9.4V	23.8V

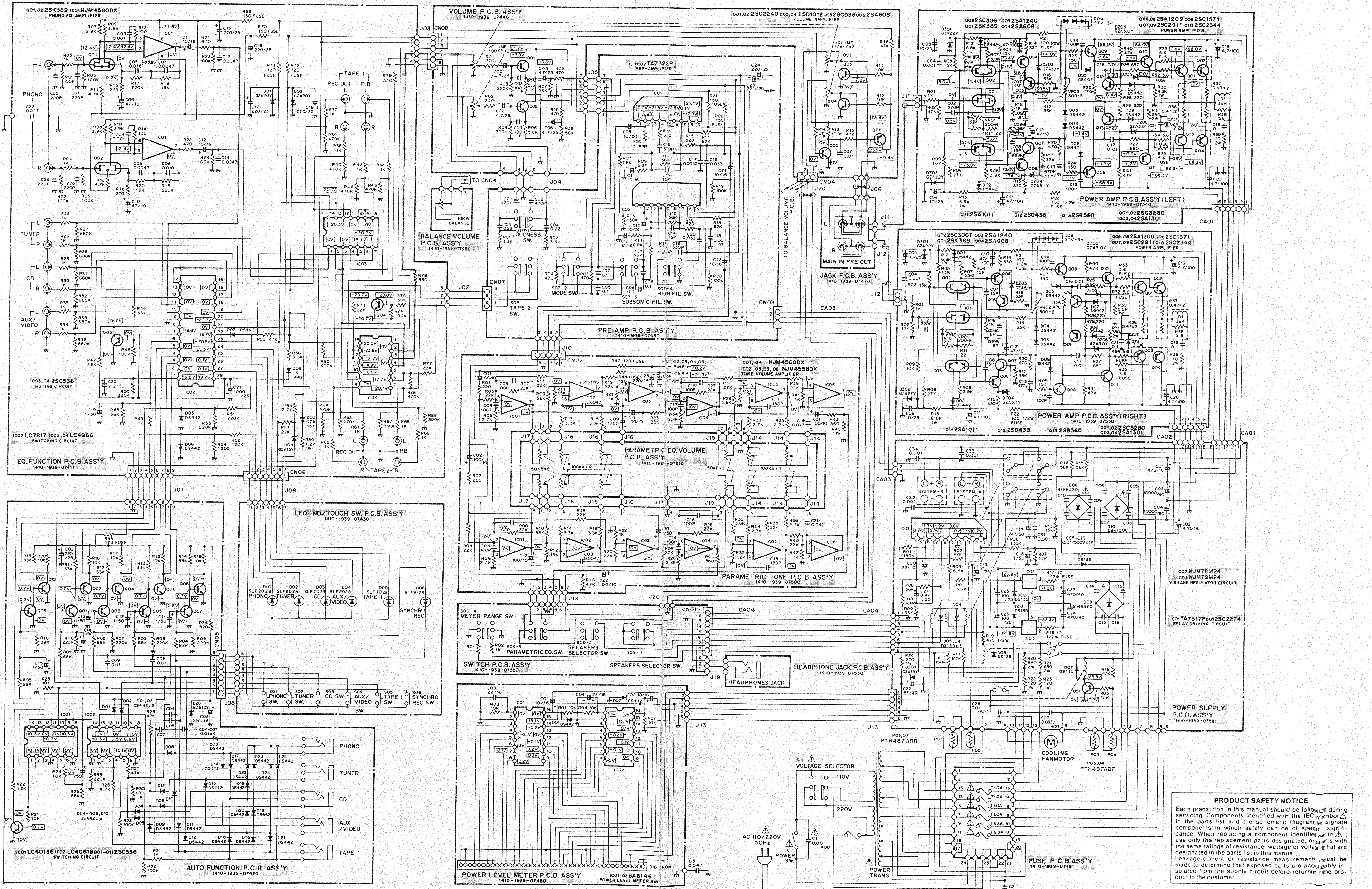
FUSE P.C.BOARD


21
19
17
15
13
11
9
7
5
42262 20850
22
20
18
1
23
FUSE T1.0A
FUSE T1.0A
FUSE T6.3A
FUSE T6.3A
FUSE T1.0A
FUSE T1.0A
2
24
16
14
12
10
8
6

POINT TO POINT WIRING DIAGRAM


FUSE P.C.B. ASS'Y
1410-1939-07491
C2
0.022/16
METAL MOUNT HEAT SINK
110/220V AC
50Hz
220V
110V
S11
VOLTAGE SELECTOR
SW.
POWER TRANS.
C01
0.01/400
S10
POWER SW.
POWER AMP P.C.B. ASS'Y (LEFT)
1410-1939-07540
CA01
POWER SUPPLY P.C.B. ASS'Y
1410-1939-07561
CA01
CA02
CA03
CA04
J13
PLATE HEAT SINK
COOLING
FAN MOTOR
PRE OUT
MAIN
R
IN
L
JACK P.C.B. ASS'Y
1410-1939-07470
J06
J11
J12
POWER AMP P.C.B. ASS'Y (RIGHT)
1410-1939-07550
CA01
J12
M.M AUTO FUNCTION
EQ. FUNCTION P.C.B. ASS'Y
1410-1939-07411
J01
J02
J03
CN06
J09
CN05
AUTO FUNCTION P.C.B. ASS'Y
1410-1939-07420
J01
CA04
CN01
J18
J19
J20
SWITCH P.C.B. ASS'Y
1410-1939-07520
J07
BALANCE
BALANCE VOLUME P.C.B.
ASS'Y
1410-1939-07450
J19
HEADPHONE JACK P.C.B.
ASS'Y
1410-1939-07530
HEADPHONES
JACK
J10
J18
CN02
PARAMETRIC TONE P.C.B. ASS'Y
1410-1939-07500
J16
J17
J15
J14
PARAMETRIC EQ. VOLUME P.C.B. ASS'Y
1410-1939-07510
J02
CN07
CA03
CN03
J10
J05
J04
PRE AMP P.C.B. ASS'Y
1410-1939-07460
PANEL FRONT
C3
0.047/50
POWER LEVEL METER P.C.B. ASS'Y
1410-1939-07480
J13
LED IND./TOUCH SW. P.C.B. ASS'Y
1410-1939-07430
J09
J08
J05
J06
J07
J20
CN04
CN08
J04
VOLUME P.C.B. ASS'Y
1410-1939-07440
BLK
GY
GN
WH
OR
RED
BL
YEL
BRN
LT-BL
PK
V10

SCHEMATIC DIAGRAM



Q01,02 2SK389 IC01 NJM4560DX
PHONO EQ. AMPLIFIER
PHONO
TUNER
CD
AUX/VIDEO
Q03,04 2SC536
MUTING CIRCUIT
IC02 LC7817 IC03,04 LC4966
SWITCHING CIRCUIT
EQ. FUNCTION P.C.B. ASS'Y
1410-1939-07411
VOLUME P.C.B. ASS'Y
1410-1939-07440
Q01,02 2SC2240 Q03,04 2SD1012 Q05 2SC536 Q06 2SA608
VOLUME AMPLIFIER
IC01,02 TA7322P
PRE-AMPLIFIER
TAPE 1
REC OUT
P.B
BALANCE VOLUME P.C.B. ASS'Y
1410-1939-07450
10KW BALANCE
TO CN04
LOUDNESS SW.
S07-2 MODE SW.
S07-3 SUBSONIC FIL. SW.
S07-4 HIGH FIL. SW.
S08 TAPE 2 SW.
PRE AMP P.C.B. ASS'Y
1410-1939-07460
TO BALANCE VOLUME P.C.B.
MAIN IN PRE OUT
JACK P.C.B. ASS'Y
1410-1939-07470
REC OUT
TAPE 2
Q02 2SC3067 Q03 2SA1240
Q01 2SK389 Q04 2SA608
D09 STV-3H
Q05,08 2SA1209 Q06 2SC1571
Q07,09 2SC2911 Q10 2SC2344
POWER AMPLIFIER
POWER AMP P.C.B. ASS'Y (LEFT)
1410-1939-07540
Q11 2SA1011
Q12 2SD438
Q13 2SB560
Q01,02 2SC3280
Q03,04 2SA1301
POWER AMP P.C.B. ASS'Y (RIGHT)
1410-1939-07550
IC01,04 NJM4560DX
IC02,03,05,06 NJM4558DX
TONE VOLUME AMPLIFIER
PARAMETRIC EQ. VOLUME P.C.B. ASS'Y
1410-1931-07510
PARAMETRIC TONE P.C.B. ASS'Y
1410-1939-07500
LED IND/TOUCH SW. P.C.B. ASS'Y
1410-1939-07430
D01 SLF202B PHONO
D02 SLF202B TUNER
D03 SLF202B CD
D04 SLF202B AUX/VIDEO
D05 SLF102B TAPE 1
D06 SLF102B SYNCHRO REC
S01 PHONO SW.
S02 TUNER SW.
S03 CD SW.
S04 AUX/VIDEO SW.
S05 TAPE 1 SW.
S06 SYNCHRO REC SW.
IC01 LC4013B IC02 LC4081B Q01-Q11 2SC536
SWITCHING CIRCUIT
AUTO FUNCTION P.C.B. ASS'Y
1410-1939-07420
S09-4 METER RANGE SW.
S09-3 PARAMETRIC EQ. SW.
S09-2 SPEAKERS SELECTOR SW.
S09-1
SPEAKERS SELECTOR SW.
SWITCH P.C.B. ASS'Y
1410-1939-07520
HEADPHONES JACK
HEADPHONE JACK P.C.B. ASS'Y
1410-1939-07530
POWER LEVEL METER P.C.B. ASS'Y
1410-1939-07480
IC01,02 BA6146
POWER LEVEL METER AMP
DIGITRON
SYSTEM-B
SYSTEM-A
IC02 NJM78M24
IC03 NJM79M24
VOLTAGE REGULATOR CIRCUIT
IC01 TA7317P Q01 2SC2274
RELAY DRIVING CIRCUIT
POWER SUPPLY P.C.B. ASS'Y
1410-1939-07561
P01,02 PTH487ABB
P03,04 PTH487ABF
COOLING FANMOTOR
S11 VOLTAGE SELECTOR
110V
220V
AC 110/220V 50Hz
S10 POWER SW.
POWER TRANS
FUSE P.C.B. ASS'Y
1410-1939-07491
T1.0A
T6.3A

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual.
Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.